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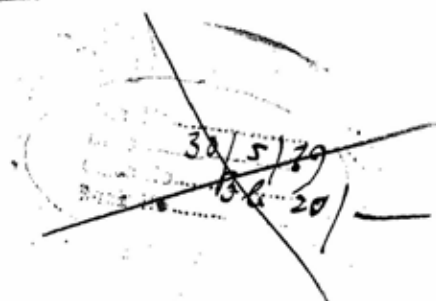
THE ANNUAL  
OF THE  
BRITISH SCHOOL AT ATHENS

No. XXXVI

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**SESSION 1935-1936**

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# THE BRITISH SCHOOL AT ATHENS

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## THE ANAVYSOS KOUROS

EARLY in August 1937 the fragments of a marble *Kouros* were conveyed in three packing-cases to the National Museum at Athens from Paris, where Greek police officials had received it from M. Roussos, an antique dealer who had been resident in that city for some time. It was subsequently confirmed that this statue had been smuggled out of Greece by sea a few years ago from Anavysos near Laurion, a district whose sparsely populated coast-line has been for years the scene of a systematic traffic in antiques.

Anavysos is best known for the Government salt-pans, which have long been established there. It belongs to the deme of Thorikos, and lies among the foothills of the Laurion Olympos, close to the rocky peninsula of Skordi. It is separated by a small depression from the range of Keratovounion, which forms a barrier between the plateau of Anavysos and that of Keratea. It is in this neighbourhood that Strabo places the ancient deme of Anaphlystos, which must have been one of the most important in Attica, to judge from the number of marble sculptures that have been smuggled from it, and the chamber-tombs which are found in the locality. I carried out excavations in this district in 1911 in collaboration with my colleague, the late Panag. Kastriotis, on behalf of the Greek Archaeological Society, and found many graves containing fine Geometric vases, large and small, most of which are now in the National Museum.<sup>1</sup> I remember hearing frequently, in the course of these excavations, from the few peasants of the place and from subordinates of the Government salt-works, that there were ancient marble remains on a certain hill close by, which belonged to a private owner in Athens, and that statues had been smuggled from there. As the site was in private hands, I did not investigate it at the time, intending to seek permission from the Government to do so later on.

It may be asserted with some confidence that the name Anavysos is a corruption of the name of the ancient deme of Anaphlystos. Here, as it seems, our *Kouros* was discovered a few years ago and conveyed abroad. We do not know the precise date of these events, but there is evidence tending to show that the statue was not discovered until after the export to America of a similar marble work, the well-known *Kouros* of the Metropolitan Museum of New York, about which so much has been written, and which formed the subject of a famous trial in Athens.

In order to facilitate the illicit export of these masterpieces of ancient sculpture and to elude the vigilance of the authorities, the persons engaged

<sup>1</sup> For the Anavysos excavations see *Praktika* 1911, pp. 110-131.

in the traffic are in the habit of breaking up statues in the most abominable manner and packing the pieces in fairly small cases, together with foodstuffs or other produce of the country. Accordingly, our kouros was broken into ten fragments of varying size and placed in three packing-cases. The first contained the head and upper part of the body, the second the lower part of the body (from just above the navel) together with the thighs, while the third held the eight remaining smaller fragments—*i.e.*, the two hands, which were broken off at the wrist, the upper portion of the left arm (from a little above the elbow down to the wrist), the lower portions of the two legs, a small fragment of the left heel, and the rest of both feet as far as the instep. The remaining portions of the feet are missing, together with the plinth on which the statue stood. It is possible, however, that the plinth is not irretrievably lost. It may have been left in the ground, or it may yet be discovered on the premises of M. Roussos in Paris, where a search for it should undoubtedly be made.

The dismemberment of statues about to be smuggled out of the country is carried out at dead of night. The villagers usually lay the statue across a large stone and proceed to pound it with wooden or stone hammers until it breaks into two or more principal pieces, to say nothing of inevitable minor fractures. Revolting as the process is, it has one advantage over mechanical methods: the broken surfaces, when subsequently put together make a perfect join which in some cases can hardly be detected. In consequence, our statue has been most successfully re-assembled.<sup>1</sup> Only a few portions of the statue are missing—*viz.*, the tip of the nose, most of the thumb, forefinger and little finger of the left hand, a portion of the left arm below the shoulder, the tip of the right thumb, the right ankle-bone and the lower portions of both feet, as noted above. The missing portions of the left arm and left leg only have been replaced with plaster.<sup>2</sup> The statue has been placed in the archaic gallery of the Museum.<sup>3</sup>

The Anavysos Kouros is of Parian marble. It has a reddish tint; but in many places, particularly on the right thigh and at the back close under the neck, the surface has perished to some extent as a consequence of the action of the soil. In general, however, the statue is very well preserved. It has a total height of 1.94 m., or nearly seven and a half times that of the head, which measures 0.26 m. from chin to crown.

The detailed measurements of the torso are as follows: from throat to

<sup>1</sup> By M. Andreas Panayotakis of the National Museum at Athens, who has been responsible for so many reconstructions of ancient works of art, both in bronze and marble.

<sup>2</sup> Since this article and the illustrations were put into print, the missing parts of the left arm, thumb and forefinger, and two small fragments missing from the left elbow and knee-cap have been recovered from Paris and re-incorporated in the statue.

<sup>3</sup> I am indebted to Mr. Gerard M. Young, Director of the British School at Athens, for the excellent photographs which accompany this article, as also for the translation of it.

navel 0.406 m.; from throat to pubes 0.56 m. The centre of the pubes is also the centre of the height of the whole statue, so that the body is proportionately somewhat longer than usual. The breadth of the shoulders is 0.54 m. and the distance between the two nipples 0.242 m. The vertical line separating the two halves of the chest and stomach is about 1 mm. out of alignment, towards the left, and consequently the right side of the figure is slightly more prominent. The general appearance of the statue is compact, solid and impressive. We have before us a full-bodied young athlete, well-covered, however, and with rounded, almost feminine, outlines. The buttocks are particularly developed. The exuberant contours are in marked contrast to the majority of Kouroi, whether earlier or contemporary. The statue is, for instance, totally unlike the dry, angular, lifeless Kouros in New York. It is far more akin to the Attic kouros in Munich (Glyptothek No. 169), which is of course also much nearer to it in date. In the softness of its modelling it somewhat resembles the Apollo from Ptoon (Athens No. 12), which now stands next to it in the museum. Like all archaic statues, it has an erect frontal pose, with the weight carried equally on both soles of the feet, the left foot being slightly advanced. Both arms lie along the flanks, and the hands are clenched. The hands do not actually touch the thighs, but are connected with them by small rectangular supports. The chest is broad and powerfully developed, but the waist is narrow. The abdomen, on the other hand, is broad and its muscles are well defined. The buttocks, as noted, are conspicuously rounded, and the thighs and calves almost excessively developed. The head is rather small, and very symmetrical. The hair is stylised about the forehead in a series of ten spiral curls, five on each side, gradually increasing in size as they descend from the summit of the forehead to the temples. It is bound with a narrow fillet, painted red, below which the hair falls at the back on to the neck in an undulating mass of twenty parallel tresses. In earlier archaic statues these tresses are for the most part rendered conventionally in little squares divided by perpendicular and horizontal grooves. In our statue, however, the hair is more naturally treated: the horizontal divisions are not continuous, but independent, and the whole design is curved rather than rectangular. The hair of the head and of the pubes is painted red. The eyes are almond shaped, but horizontal, and not oblique, as is the case with some archaic Kouroi and Korai. The eyeballs are very prominent. The pupils were probably painted. The nose is slightly aquiline and pointed. The mouth is symmetrical, the lips are fine and compressed, but very expressive. The neck is rather wide, massive and well shaped. The thorax and collar-bones are not particularly prominent, being well covered by flesh. Below the chest the arc of the ribs is well rendered. The stomach recedes somewhat, as may be noticed in a profile view. The arms are well

shaped and rounded, but the extreme slenderness of the wrists creates a disproportionate effect. Looking at the head in profile, one is impressed both by the simplicity and the austerity of the modelling, and by the gentle smile which mitigates its severity. There is something very distinctive in the features of our kouros: note, for instance, the modelling of the chin. Indeed, the whole appearance of the statue suggests an individual rather than a type. One might almost think that the sculptor had used as his model not merely the features, but the whole figure of some youth of his acquaintance, or perhaps of some victorious athlete. In general the statue presents itself to us as one of the most perfect examples of archaic art, providing almost the last link in the long chain of the various Apollos or kouroi that have come down to us. These have been exhaustively studied by our colleague W. Deonna, of Geneva, in his erudite work *Les Apollons archaïques* (Geneva 1909) as well as his *Dédale*, in which works he has examined, with the most scrupulous scientific accuracy, and in the minutest detail, all the archaic kouroi which had been discovered up to a few years ago. I would also refer my readers to the admirable study of Miss Gisela Richter, Director of Greek and Roman Antiquities in the Metropolitan Museum of New York, *Der Kouros in New York* (Brunn-Bruckmann Nos. 751-755); and to her article in *Metropolitan Museum Studies*, V, pp. 21 ff.; cf. also K. Rhomaïos, *Antike Denkmäler* IV, pp. 91 ff. The above works contain references to numerous other relevant publications which are here omitted.

Chronologically the kouros of Anavysos most probably dates about 530; and is therefore about contemporary with the Peplos Kore (Acropolis No. 679), and the Kore of Antenor (Acropolis No. 681). The dates of the long sequence of Kouroi from the Dipylon head onwards, are, of course, purely tentative, and unconfirmed in the absence of written evidence. Nevertheless the majority of archaeologists accept them at the present day, and they may consequently be regarded as more or less accurate. The future may perhaps bring forth monuments which will throw a clearer light on this lengthy period which paved the way for the supreme sculpture of Pheidias, Polycleitos and Myron.

ALEX. PHILADELPHUS

*Director of the National Museum of Athens.*

## EXCAVATIONS IN THE PLAIN OF LASITHI. I.

### THE CAVE OF TRAPEZA.<sup>1</sup>

#### I. TOPOGRAPHY.

(Plate 6 Figs. 1 and 2.)

THE plain of Lasithi (a corruption of La Sitia, a name which in Venetian days included the whole of the eastern end of Crete) lies in the centre of



FIG. 1.—MAP OF CRETE.

the Dikte *massif* some 2750 feet above sea-level (Fig. 1). Originally it was probably of a marshy nature, but, owing to the deforestation of the surrounding mountains and the subsequent washing down of the earth from

<sup>1</sup> The following abbreviations have been used:—

*Ag. Onuphrios Deposit* = A. J. Evans, *Cretan Pictographs and Præ-Phoenician Script. Supp.*

*CM* = Candia Museum No.

*Festòs* = L. Pernier, *Il Palazzo Minoico di Festòs.*

*OICP* = Oriental Institute of Chicago Publications.

*SAOC* = *Studies in Ancient Oriental Civilization.*

*VTM* = S. Xanthoudides, *Vaulted Tombs of Mesara.*

them, a great depth of soil has collected to form a flat plain, which is now one of the most fertile parts of Crete, especially since the introduction of the potato some forty years ago.<sup>1</sup>

The plain is roughly oval in shape, about seven miles from east to west by about four miles from north to south (Fig. 2). It is divided into two unequal parts by the large knoll called Kephala, which rises not far from the east end and separates the flat plain to the west from the more broken country to the east. The western portion is divided into squares some 600 yards each way by dykes. These are known as λίνιας, and are attributed by the inhabitants to the Venetians. But in Venetian times the plain was 'out of bounds' on pain of mutilation, owing to the risk of rebellions being hatched in this out-of-the-way spot,<sup>2</sup> and the regularity of the λίνιας seems more in keeping with an origin in Roman times.

To the south rise the massive twin summits of Dikte proper, Aphendes Khristos and Spathi, both of them just over 7100 feet high, and reached in about 2½ hours from the plain. East of these is the slightly lower summit of Mount Lazaros, which overhangs the south side of the smaller plain of Katharos, 1000 feet above Lasithi proper. The south-east corner of Katharos is blocked by Mount Khalasmenos. Next comes Mount Aloïdha, bounding Lasithi to the east. On the north side is the low ridge of Xerakias or Psarokorphe, behind which rises Mount Selena (c. 5300 feet). Farther west is the peak of Karphi, with the great shoulder of Koprana running down from it, then the ridge of Agiou Georgiou Papoura, and in the north-west corner Mount Louloudhaki. At the north end of the west side is Mount Bergadhi; next comes Mount Aphendes, rising to about the same height as Selena, and south of this Mount Sarakinos, with spurs called Phasossalo, Phaskomiliais and Plaka running down to the plain.

There are three smaller plains at a higher level: (1) Katharos, already mentioned, which has cultivation and grazing and is sparsely inhabited all the year round in spite of its altitude;<sup>3</sup> (2) Limnarkaros, uninhabited but well watered and cultivated, between Spathi Diktes and Plaka; (3) Nesimos, a small plain cultivated with difficulty, between Selena and Karphi.

Lasithi is drained by the Megalos Potamos, which descends by the

<sup>1</sup> Hogarth's theory (*BSA* VI 115) that the plain was a lake until MM I times, with the Diktaian Cave as a swallow hole, is disproved by the occurrence of Neolithic pottery at Trapeza, which lies at a lower level than that cave. The only site on a level with the flat plain, the Roman site at Vounos, preserves in its name a memory of the time when it was a settlement on top of a small eminence rising out of the marsh. By pure chance the level of the soil has risen just to the top of it. How many other sites are now completely buried leaving no indications on the surface one cannot say. But the local inhabitants speak of bones found at a great depth when wells are dug.

<sup>2</sup> *BSA* XX p. 12.

<sup>3</sup> For the Palaeozoic remains cf. Miss Bate *Geological Magazine* Decade V ii p. 199.

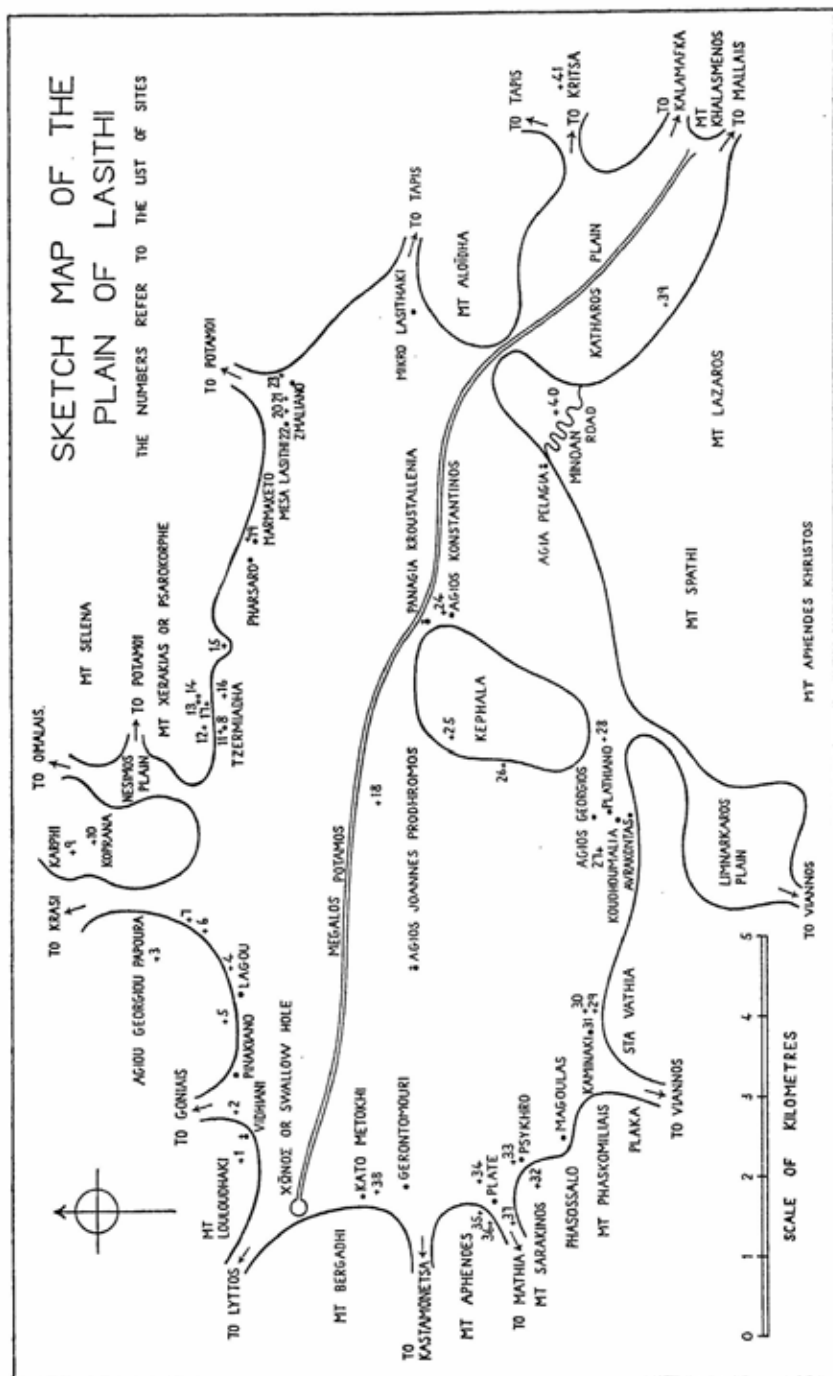


FIG. 2.—SKETCH MAP OF THE PLAIN OF LASITHI.



Khavgas or Khaos gorge from Katharos, receives a considerable tributary which comes down the Poros ravine from Limnarkaros, and eventually disappears into a χῶνος or swallow hole on the north side of Mount Bergadhi, near Kato Metokhi.

Corn and potatoes are grown at the west end of the plain, olives on the broken ground to the east and vines on the lower slopes of the surrounding hills. Almond, apple and mulberry trees are not uncommon, but efforts at reafforestation have been confined to planting a quantity of ilex trees on the north side of the plain. Grazing on the mountains is good, and the quality of the *misithra* is said to rival that of Ida.

The villages are numerous: (1) Tzermiadho or Tzermiadha, the capital, below Selena; (2) Lagou a quarter of an hour west; (3) Pinakiano, five minutes west of that, with the nearly deserted monastery of Vidhiani near by; (4) Pharsaro, a quarter of an hour east of Tzermiadha; (5) Marmaketo, practically joining the last; (6) Mesa Lasithi, twenty minutes to the east with (7) Zmaliano Metokhi adjoining it, and (8) Mikro Lasithaki, all lie on the north side of the plain. To the west are: (9) Kato Metokhi, (10) Gerontomouri (also known rudely as Gaïdhouromandri), (11) Plate and (12) Psykhro. On the south side are: (13) Magoulas, now practically deserted, (14) Kaminaki, (15) Agios Georgios, and a group which practically amount to suburbs of it, (16) Koudhoumalia, (17) Avrakontas and (18) Plathiano. On the east side of the Kephala is (19) Agios Konstantinos and, close by, the monastery of Panagia Kroustallenia. In the middle of the plain is the conspicuous church of Agios Ioannes Prodhromos. The total population is about 7000.

Though surrounded by mountains, the plain is not difficult of access. It is not, however, on the direct route between any of the great centres. This accounts for the fact that its culture has throughout shewn a pronounced individuality of character, and has yet kept in touch with the outside world. Most of the mountains are scaleable at almost any point, but the following are regular routes passable for pack animals.

1. To Kato Metokhi from Lyttos by the 'Tomb of Tsouli,' Pass between Bergadhi and Louloudhaki. *c.* 3 hrs.
2. To Lagou from Goniais by the Gastali Gorge and the col called Selli west of Agiou Georgiou Papoura. *c.* 2 hrs.
3. To Tzermiadha or Lagou from Kera by the col called Armos east of Agiou Georgiou Papoura. *c.* 1½ hrs.
4. To Tzermiadha from Neapolis round the north side of Selena, via Omalais and through the Nesimos plain. Very rough and waterless. *c.* 7 hrs.
5. To Tzermiadha from Potamoi over the col called Zarmas or Zaromas between Selena and Psarokorphe, then (a) by

- Timios Stavros church. *c.*  $1\frac{1}{2}$  hrs. Or (b) by the Kastellos. *c.*  $1\frac{1}{4}$  hrs.
6. To Mesa Lasithi from Potamoi. The route taken by the new car road. *c.*  $\frac{3}{4}$  hr.
  7. To Mikro Lasithaki (a) from Tapis round the north side of Aloïdha and over the Akoumanos pass. *c.*  $4\frac{1}{2}$  hrs.  
(b) from the Katharos Plain via the saddle of Mesaraki.  $1\frac{1}{2}$  hrs.
  8. To Agios Georgios via the Katharos Plain, Alexena saddle and the Minoan road from:  
(a) Kritsa or Tapis (the paths meet near the Minoan forts of Akhladhiais and the Kitten's Cistern) and the pass called Aspa to Katharos. *c.* 4 hrs. to Agios Georgios.  
(b) Kalamafka via the Romanou pass east of Khalasmenos to Katharos. *c.*  $4\frac{1}{2}$  hrs.  
(c) Mallais via the Selli Melias west of Khalasmenos to Katharos. *c.* 4 hrs.
  9. To Agios Georgios or Kaminaki from Vianos via Erganos and the Limnarkaros Plain. *c.*  $5\frac{1}{4}$  hrs.
  10. To Kaminaki from Vianos via the Khloros pass between Phaskomeliais and Sta Vatheia, the foothills of Spathi. *c.*  $4\frac{3}{4}$  hrs.
  11. To Plate from Mathia via Selli pass between Aphendes and Sarakinos. *c.*  $2\frac{3}{4}$  hrs.
  12. To Gerontomouri from Kastamonitza via Kara Pegadhi between Aphendes and Bergadhi. *c.*  $2\frac{1}{2}$  hrs.<sup>1</sup>

Knossos can be reached via route 1 in *c.* 8 hours, Phaistos via route 11 in *c.* 16 hours, Gournia via route 7 (a) in 8 hours or route 8 (a) in 10 hours.

Many ancient settlements of all dates are found in the district. In the following list those which have been excavated or partly excavated are given in capitals. They are grouped under the village in whose district they are, and the number after each site is that given on the map (Fig. 2).

1. Pinakiano. (a) Τοῦ Σταυράκου ὁ Λάκκος.  $\frac{1}{4}$  hr. W. of the village above Vidhiani Monastery. On the S.E. slopes of the hill are archaic sherds. In the fields below are Roman sherds and glass. (1.)  
(b) Μπάγαλι or Χατζήρης Πηλιάρι. 5 minutes W. of the village. Geometric and archaic sherds on the surface. Pithoi are said to be found. (2.)

<sup>1</sup> Of these routes 5 and 12 are from hearsay.

## 2. Lagou.

- (a) Του Ἀγίου Γεωργίου Παπούρα. 20 minutes above the village. A very large site ranging in date from MM to Roman times, archaic material predominating (Evans *Diary* 1896; Taramelli *Mon. Ant.* IX 407). A tholos with objects of Geometric-Orientalising date excavated in 1937 by the writers at Τοῦ ΣΤΕΦΑΝΗ Ο ΛΑΚΚΟΣ near Armos saddle at the east end. (3.)
- (b) ΚΟΛΟΝΝΑ. 5 m. E. of the village, and probably continuing under the village itself, a suburb of the above site. Archaic buildings with a later Classical deposit excavated by the writers in 1937. Hellenistic graves mentioned by Evans *Diary* 1896. (4.)
- (c) ΝΤΟΝΑΔΗΣ. 10 m. W. of the village, also a suburb of the Papoura. An archaic house excavated by the writers in 1937. (5.)
- (d) ΚΕΡΑΣΑ.  $\frac{1}{4}$  hr. E. of the village. A Hellenistic built tomb (small archaic deposit) excavated by the writers in 1937. Roman remains near by. (6.)
- (e) Γαῖτανοῦ. Above the latter site. Archaic and Classical sherds on the surface. A bronze double axe of uncertain date in the Museum at Candia. (7.)

## 3. Tzermiadha.

- (a) Middle Minoan III vases from the village. (8.)
- (b) ΚΑΡΦΙ.  $\frac{1}{2}$  hr. above the village. Protogeometric temple and tholoi excavated by the writers in 1937, other remains of the same date near by. A little Hellenic and Hellenistic pottery. (Cf. Evans *Diary* 1896.) (9.)
- (c) Κοπράνα. Part of the above site. Some LM sherds. (Cf. Evans *Diary* 1896.) (10.)
- (d) ΑΡΓΟΥΛΙΑ. Cave in the village, tested by the writers in 1937. Neolithic—LM. (11.)
- (e) ΣΚΑΦΙΔΙΑ. Cave 10 m. north of the village. Neolithic burial excavated by the writers in 1937. (12.)
- (f) ΤΡΑΠΕΖΑ. Cave excavated by the writers 1936 (see below in detail). Neolithic—MM I, little later. (13.)
- (g) SURROUNDS OF ΤΡΑΠΕΖΑ. Neolithic rock shelter. MM I pithos burial, LM III larnax burial excavated by the writers in 1937. (14.)

- (h) ΚΑΣΤΕΛΛΟΣ ΤΖΕΡΜΙΑΔΩΝ.  $\frac{1}{4}$  hr. E. of the village. Neolithic burials, EM I-MM III settlement, little later, excavated by the writers in 1937. (Cf. *Evans Academy* 20.6.96; *Taramelli Mon. Ant.* IX 415.) (15.)
- (i) Πόντα or 'Αγία Άννα. 10 m. S.E. of the village. Archaic and Hellenistic sherds on the surface, Hellenistic bronze, Roman coins. In a field below to the east MM and LM sherds. (Cf. *Evans Diary* 1898.) (16.)
- (j) Καβαλλάρης Βώλακας. 5 m. E. of the village. A pithos burial is mentioned by *Evans Academy* 20.6.96. (17.)
- (k) Μεγάλος Ποταμός or Βουνός. 10 m. S. of the village in the flat plain. Roman sherds. (18.)
4. Marmaketo. Φακιδιά. Immediately above the village an MM I-LM I site. (Cf. *Dawkins BSA* XX 4.) (19.)
5. Mesa Lasithi. (a) Νικηφόρδο. 5 m. above the village. Geometric larnax burials found during work on the modern road. (20.)
- (b) Βλίκυστρά. 5 minutes on. LM III sherds. (21.)
- (c) From the village itself is said to come an MM gem in the Candia Museum. (22.)
6. Zmaliano. Παλαιόμανδρα. 10 minutes above the village an LM I pithos burial found while making the car road. (23.)
7. Agios Konstantinos. (a) Χαράκια. Outside the N. end of the village. Archaic sherds and stories of foundations. (24.)
- (b) Κεφάλια. The site is on the N.W. side of the hill. Archaic burials, fourth-century coins, Hellenistic, Roman and Byzantine sherds and coins. (25.)
- (c) Αύγουστή. MM I vases. Large Byzantine site of which the population is said to have transferred to Agios Georgios. (26.)
8. Agios Georgios. (a) Τοῦ Βασιλικοῦ.  $\frac{1}{4}$  hr. E. of the village. Roman imperial coin and Roman sherds. A well lined with ancient blocks is near by. (27.)
- (b) Κάστελλος.  $\frac{1}{4}$  hr. W. of the village. Walls probably Byzantine. A few Hellenic sherds. (Cf. *Evans Diary* 1.6.95.) (28.)
9. Kaminaki. (a) Κουτσουνάρια. 10 minutes E. of the village. A larnax burial said to have been found here. Roman sherds on the surface. (29.)

- (b) Μαγατζέδαις. 5 minutes N. of the latter. Roman walls, aqueduct and sherds. A tomb said to have been found. (30.)
- (c) In the village itself a Minoan site (Dawkins, *BSA* XX 4) not now traceable. (31.)
10. Psykhro.
- (a) ΔΙΚΤΑΙΟΝ ΑΝΤΡΟΝ. 20 minutes above the village, excavated by Hogarth (*BSA* VI 94 ff. and references there) MM I-Orientalising. (32.)
- (b) Σκόλλια and Σταυρί. 5 minutes N. of the village. Roman sherds and walls. (33.)
11. Plate.
- (a) ΚΑΤΩ ΚΕΦΑΛΑ. 10 minutes N.E. of the village. LM I-III settlement. (34.)
- (b) ΑΠΑΝΩ ΚΕΦΑΛΑ. 5 minutes N. of the village. LM III-Sub-Minoan tombs. (35.)
- (c) Κατσουχείροι.  $\frac{1}{4}$  hr. N.W. of the village. EM. I vases, axes and beads. (36.)
- (d) Βρυσιδία.  $\frac{1}{4}$  hr. W. of the village. A pottery lion said to have been found. (37.)
12. Kato Metokhi.
- Ρουσσανός. 10 minutes S.E. of the village. Roman sherds, but walls seem earlier. (Cf. Evans *Diary* 1898.) (38.)
13. Katharos Plain.
- (a) Καθάρως proper. A spring near the east end of the plain. Roman sherds. (39.)
- (b) The road up from the church of Agia Pelagia in the Lasithi plain is Minoan and retains traces of the banking and fortification. (Cf. Evans *Diary* 1.6.95.) (40.)
- (c) On the road down from Aspa to Kritsa is a fine LM fort at Ἀχλαδιαίς or Ρουχούνη,<sup>1</sup> 1 hr. from the pass.  $\frac{1}{4}$  hr. below this, on the road from Aspa to Tapis which branches off the above at Πλάκα Ἀρόλιθο, is τῆς Κατσούλας ἡ Στέρνα, where are traces of the banking of the Minoan road. The latter name has been transferred to the fort. (Cf. Evans *Academy* 1894; Taramelli *Mon. Ant.* IX 410.) (41.)
- (d) On the road down from Romanou to Kalamafka is a fine series of LM I forts at Λαυράκα or Λαυράκια. (Cf. Evans *Diary* 1896 and 1898.)

<sup>1</sup> The Arabic *rukhn*, a corner, hence in E. Crete a corner stone or even a dressed stone (W. Cretan κάντουνα).

East of this there is said to be another on the saddle of Μιτσιτάκι.

No doubt other sites will be found in this district as well as fresh evidence as to those already known. As we have said above, there may well have been settlements which have been covered deeply by the soil of the plain.

## II. THE CAVE OF TRAPEZA.

### A. *Position and Previous Explorations* (Plate 6, Fig. 3).

The low plateau called Trapeza lies to the N.E. of the village of Tzermiadha, the summit rising about 300 feet above the level of the plain. Near the east end of the steep southern face of this plateau is a cave, usually known simply as τῆς Τραπεζας τὸ σπήλαιον, but known also as τῆς Πλάκας ἡ Γρύλη, to distinguish it from two or three others in the same region, Φοῦρνος, a small cave with no antiquities in it, which lies slightly farther west, τοῦ Γρυμάνη τὸ σπήλαιον, a mere crack in the rock some 30 metres east of Trapeza, which contained a neolithic vase excavated in 1937, and Πηγαϊδάκια, a larger cave on the north side of the plateau near three small wells, which is also barren of ancient remains.

Our cave, which will be called henceforth simply "Trapeza," was first discovered by Sir Arthur Evans (*Academy* 20.6.96), who refers to it as containing objects mainly of the Hellenistic period, but also comprising a faience figurine of Bes and fragments of gold leaf which subsequently found a parallel in the Early Minoan jewellery at Mokhlos. Taramelli (*Mon. Ant.* IX 410) also mentions the cave. Bosanquet (unpublished notes) states that a few pieces of bronze reminiscent of the material from the cave on Mount Ida were found here. Otherwise it does not seem to have been visited by archaeologists until June 1935, when Miss Money-Coutts and Messrs. R. W. Hutchinson and J. D. S. Pendlebury explored it. Early Minoan II sherds, including a few fragments of Vasilike ware, were found, and with the help of a grant from the Craven Fund of Cambridge University the excavation began on 4 May, 1936, lasting until 19 May.

Miss Money-Coutts and Mr. and Mrs. Pendlebury were present throughout, Mr. A. Mayor assisted for the first week, and Mr. R. S. Lavers, architect of the Egypt Exploration Society at Tellel-Amarna, stayed long enough to make the plans and sections. With the consent of the Committee of the British School at Athens, the Curator at Knossos kindly lent the invaluable services of Emmanueles Akoumianos, the School's foreman, for the first week, after which he was replaced by Ioannes Meliarakes of Psykhro, thanks to the courtesy of Dr. S. Marinatos, Ephor of Crete and Director of the Candia Museum, whose foreman he is.

On our return to Candia every facility was put at our disposal in spite of the necessarily overcrowded state of the Museum, due to its rebuilding, and the Museum *formatore* immediately began work on mending and restoring the vases. We wish here to express our gratitude to the Director and also to Professor Kumaris of the Anthropological Museum at the University of Athens, who undertook to study the bones found during the excavations; to Mr. R. J. H. Jenkins, of Emmanuel College, Cambridge, who translated Professor Kumaris' report, and to Dr. W. L. H. Duckworth, of Jesus College, Cambridge, who made a technical revision of the report with additional notes. Our thanks are also due to Mr. J. R. le B. Tomlin and Mr. H. H. Brindley for the identification of the shells found in the cave. We are indebted to Dr. A. B. Cook and Professor A. J. B. Wace for their interest and help.

### B. *The Excavation* (Figs. 3-5).

The cave is entered by a low doorway and descends sharply for some seven metres. At this point a broad, flat "landing" occurs, and it turns westwards, to descend sharply again until another level area is found near the back. The rock is extremely porous, and as a result stalactites have formed, a thin glaze often covering the surface of the finds. Holes in the rock allow free passage for currents of air, and even with seven or eight workmen and a petrol lamp the atmosphere never became too stuffy. This also accounts for the quantity of soil in the cave, which could not have been washed in from without, since the entrance is at the top of a steep slope of rock.

Although no cave which had hitherto been excavated had shewn any sign of stratification, every precaution was taken that no levels were missed. The plan and section (Figs. 3 and 4) shew how the cave was dug. Horizontally the natural divisions were separately excavated; the narrowing of the cave at the end of the 6th metre, the sharp change in direction at the 11th, the fallen mass of stalactite at the 15th, the narrowing at the 19th and the 22nd metres provided good stopping-places. After the removal of a sufficient amount of disturbed soil from the surface, the lower strata were carefully excavated—horizontally a metre at a time, vertically by as much as would conveniently overlap its neighbouring layer. As each portion was completed the next vertical section of unexcavated deposit was carefully inspected for any signs of artificial levels or changes of earth. Not even the smallest fragment of earth was removed except under the eye of a member of the staff, and after a preliminary inspection in the cave the soil was carefully sieved, again under English eyes, on the small plateau outside, each basket of earth being labelled before it was brought up to daylight.

Unfortunately the cave had been the happy hunting-ground for genera-







tions of treasure-seekers. Practically all the deposit had been turned over again and again. Even since our excavation to bedrock, the tradition persists of a great treasure (λογάρι), haunted and guarded by three niggers (Ἀράπιδες) 'Λένε πῶς ὑπάρχει στὸ βάθος μία γουρούνα μὲ ἑφτά γουρουνάκια ἀπὸ χρυσάφι—ἀλλὰ ποῖος κατέχει τοῦ νὰ εἶνε;' <sup>1</sup> So touching a faith cannot be

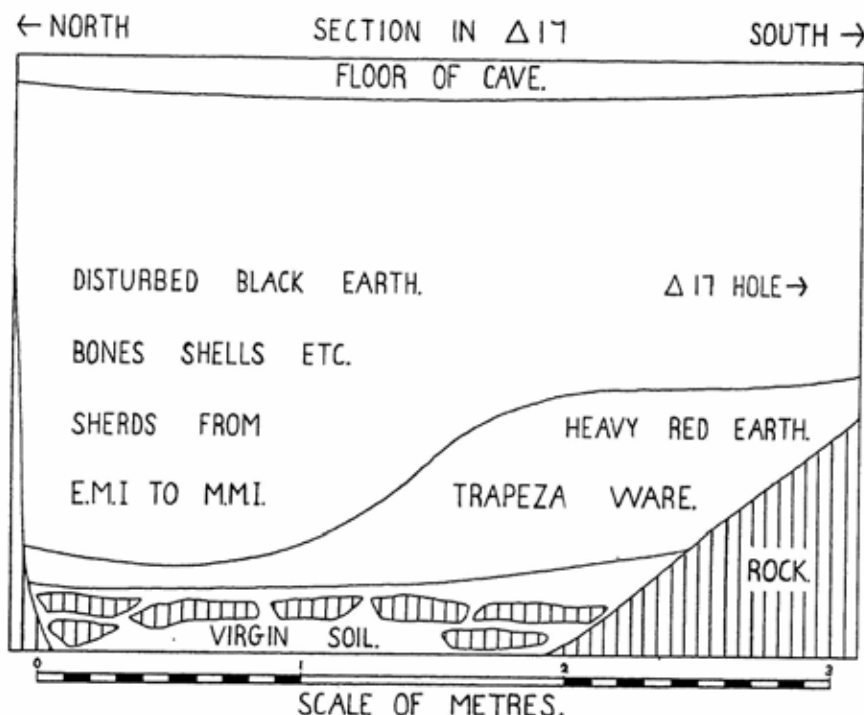


FIG. 5.—TRAPEZA CAVE: SECTION IN Δ 17.

shaken by the most rigorous archaeological methods, and secret excavation in the cave will no doubt continue indefinitely.

Fortunately, however, this rigorous method was pursued in spite of all early disappointments for one pure, unmixed stratum was found

<sup>1</sup> 'They say there is in the depths of the cave a sow with seven piglets all of gold—but who knows where they are?' This legend of golden sow and piglets guarded by niggers is common to practically every ancient site in Crete and, I believe, in Mainland Greece and the Islands. The probable value of the treasure can be calculated from the number of piglets and of ghostly guardian niggers, which in my experience vary from seven to two and from three to one respectively.

( $\Delta$  17. 1.10–1.40 S. side and 16–18. 1.40–1.70 S. side,<sup>1</sup> see below and Fig. 5). This had evidently been overlooked by previous excavators, owing to the fact that it contained only sherds and bones, and very few of those—moreover the soil was almost indistinguishable from virgin soil. How mixed were the other strata is shewn by the lid (405), which consists of no less than twelve pieces, which came from the following levels:  $\Delta$  5. 0.20–0.40, 15. 0.40–0.70, 16. Hole. 0.30–0.60, 17. 1.10–1.40 N. side, 20–22. 0–0.30.

On the whole, however, fragments seem to have kept more or less in the same natural divisions of the cave mentioned above. It is vertically that the mixing is complete.

This thorough disturbance also precluded the possibility of finding out anything concerning the burial customs. It is possible that the fact that skulls were found embedded in stalactite at the side of the cave implies that the bodies were shovelled aside to make room for newcomers, and their presence above the floor-level shews that they were sometimes laid on shelves of rock.

Except, therefore, for this one pure stratum, our attribution of clay and stone vases, seals and metal objects to a particular period is on stylistic grounds alone, and we wish to warn others that our dating is purely provisional and must be used with the greatest caution. We have given our reasons in copious footnotes, but we are quite prepared to have our dating for any particular object upset.

### C. *Summary of the Results.*

- A. Terrace below the cave. Virgin soil at 0.60. Sub-Neolithic and EM I. Little EM II and MM I. A good deal of Byzantine.
- B. Rock slope leading up to the cave. Exactly the same proportion as A. All the sherds were found in crannies in the rocks.
- $\Gamma$ . Terrace immediately outside the entrance. Virgin soil *c.* 0.50 at S. side, 0.75 by the entrance.  
     0–0.50. Sub-Neolithic to EM II. Very little MM I. One Hellenic handle. Two or three Byzantine sherds. Clay sealing (17).  
     0.50–0.75. One EM I, three EM II, one Byzantine. Pocket in the rock, N.W. corner. One Turkish bullet. Three indistinguishable sherds.

<sup>1</sup> The area was divided as follows. A: area below the entrance to the cave; B: rock slope approaching the cave;  $\Gamma$ : small platform or terrace immediately outside the cave;  $\Delta$ : the cave itself; E: the side chamber at the end of the entrance passage; Z: the chamber off the very end of the cave.  $\Delta$  7. 0.30–0.60 means the seventh metre from the entrance and the stratum 0.30–0.60 metre below the surface.

Splinters of bone in all these strata too small to be distinguished.

- Δ. The interior of the cave. *1st-6th metre from the entrance, depth 0-0.20.* Sub-Neolithic—MM I. One Hellenic, few Byzantine sherds. EM III seal (7). Stone vases (6 and 14). Earth thoroughly disturbed.

*0.20-0.40.* In this and the following strata below the surface stratum each metre was separately excavated. They are here combined. EM I-MM I. One MM II, two MM III, one Hellenic, one Byzantine sherds. Clay palette (*p*), EM II figurine (2). Parts of Egyptian alabaster bowl (9). Stone vases (12 and 26). Whetstone 36, Unfinished objects (45 and 46), obsidian blade. MM I bronze knife (12). A few fragments of human and animal bones.

In the *5th metre* at this depth was a pocket of black earth in which a number of EM II-III cups occurred, as well as fragments of two human skulls. A few sherds were found embedded in a stalactite (EM I-III).

*3rd-6th metres 0.40-0.60* (virgin soil being reached at 0.40 in the first two metres). EM I-MM I in about equal proportions. One MM II, one MM III sherds. EM III seal (2), two obsidian blades. Stone vases (1, 10, 29, 31). EM III anthropomorphic jug. Many fragments of skulls and other human bones. Few animal bones.

*4th-6th metres 0.60-0.80* (virgin soil being reached at 0.60 in the 3rd metre). Trapeza ware. EM I-III. Some MM I. One MM III. Two Byzantine. Obsidian blade. Stone vases (2, 28, 33). EM III figurines (8 and 9). Bone point (*l*). Bone button (*g*). EM III seal (1). MM I dagger (11).

*0.80-1.00.* Trapeza ware. EM I. Little EM II-MM I. Three obsidian blades. Stone vases (5, 12, 24). A few human bones.

*5th and 6th metres 1.00-1.20* (virgin soil being reached at 1.00 in the 4th metre). Some Trapeza ware, very little EM I-III. Lead bowl (IV 1).

*6th metre 1.20-1.40* (virgin soil being reached at 1.15 in the 5th metre). Some Trapeza ware, very little EM I-III.

In the *6th metre* a hole in the W. side of the passage was found at a depth of 1.00.

*1.00-1.30.* Trapeza ware, little EM I-MM I. Stone bowl (19). EM III seal (11). EM III figurine (11).

*1.00-1.60.* Virgin soil met practically everywhere at 1.40.

Trapeza ware, little EM I-III. Whetstone (37). A few splinters of bone and a human tooth.

*7th-11th metres 0-0.30.* Trapeza ware. EM I-III including fragments of a larnax. Little MM I. Gold leaf (1, 2, 4). Three obsidian blades. Stone vases (4, 11). Stone axe (43). EM II figurine (1, 3 and 6). EM III figurines (6). EM III seals (3, 4, 6, 8, 9). Bone button (*h*). Beads (*a*, *c*). A few human bones.

*0.30-0.60.* One Neolithic, some Trapeza ware, mostly EM I-III, little MM I. Four fragments of gold leaf (4). EM III figurine (10). EM III seal (12). Six human skulls, many other bones. Few animal.

*0.60-0.90.* Some Neolithic and Trapeza ware. EM I-III, little MM I. Six human skulls, many other bones. Jaw-bone of sheep.

*0.90-1.30* (virgin soil). Trapeza ware, little EM I. One EM II-III sherd.

In the *7th metre* a hole in the rock occurred on the W. side at 0.30 below the surface. *0.30-0.60.* Few sherds, mostly Trapeza ware, little EM II-III. Three skull fragments. *0.60-0.90.* Trapeza ware, EM I-III. Little MM I. Stone bowl (20). Three obsidian blades. EM III figurine (12). Bead (*e*). Bone object (*o*).

At 0.30 above the level of the surface were embedded in stalactite on the E. side of the passage: EM II-III cups with three human skulls. In a pocket of earth immediately underlying these were two Trapeza ware sherds, and one EM I.

In the *9th metre* behind a rock on the E. side of the passage at 0.90-1.40 were a few Trapeza ware sherds and a little EM II-III. Bead (*b*). Also splinters of bone.

In the *10th metre* in a hole to the E. of the passage at 0-0.30 were three EM I and five EM II sherds.

*12th-15th metres 0.40.* Some Trapeza ware and EM I. Mostly EM II-III. Little MM I. Obsidian blade. Stone vase (30). Five human skulls and a few other bones.

*0.40-0.70.* Trapeza ware, EM I-III, little MM I (including pithos fragments). Fragments of stone vases. Very few bones, including two human skulls.

*0.70-1.00* (except in 14th metre, where bedrock was reached in the last stratum). Trapeza ware. EM I-III, little MM I (including pithos fragments). Stone weight (35). Bronze knife-

point (10). Bone button (i). Fragments of eight skulls. Many other human bones.

*12th metre 1.00-1.20.* Very few sherds, seeming EM II-III.

*15th metre 1.00-1.30.* Some Trapeza ware and EM I, mostly EM II-III, little MM I. Fragments of stone vases (7, 18, 25). MM I seal (14). Triangular pottery counter (q). Six skulls (fragmentary); few other bones.

*North of the large stalactite 1.30-1.60.* One Trapeza ware, one EM I sherd, one fragment of MM I pithos.

*1.60-1.90.* Some Trapeza ware and EM I sherds. More EM II-III, some MM I, including pithos fragment.

*Under and to S. of the large stalactite 1.10-1.40.* Two or three fragments of Trapeza ware. Some EM II-MM I.

*16th-19th metres 0-0.50.* In this stratum a great number of rough stones of medium size—i.e., c. 20 cm. in length—were found. One Neolithic, some Trapeza ware, little EM I, mainly EM II-III, some MM I, one MM II. MM I dagger (13). Bronze nail (15). Silver knife blade (1). Decorated gold fragment (3). Two fragments of gold leaf. XIIth Dynasty scarab (16). EM III seal (10). Chair of MM I clay figurine (14). Ivory head (15). Bone object (m). Stone vases (21, 22 and many fragments joining others previously given). Stone pounders (41, 42). Fragments of forty-six human skulls, many other human bones, sheep's jaw, ox's jaw.

*0.50-0.80.* One Trapeza ware sherd, some Sub-Neolithic and EM I, mostly EM II-III, a little MM I, one MM III. Bronze knives (1, 3, 4). Bone knife-handle (8). Two fragments of gold leaf. Many fragments of stone vases joining others previously given. Whetstone (40). Fragments of ten human skulls, few other bones—all human.

*0.80-1.10.* One Trapeza ware sherd, some Sub-Neolithic and EM I, mostly EM II-III, a little MM I, including pithos fragments. Bronze knives (6, 7) two fragments of gold leaf. MM I seals (13, 15). Stone vase (32 and other fragments from vases already given). Whetstone (39). Bone buttons (j and k).

*Below this depth the strata include lower levels in the hole in the S. side of the passage next described. 15th-19th metres.* Hole in the S. side of the passage, the surface being 0.20 below that of the main passage.

*0-0.30.* A little Trapeza ware and EM I, mostly EM II-III, some MM I. Two EM II figurines (4, 5). MM I figurine

(14 with chair from 16-19, 0-0.50). Stone fragments joining other vases already given. Fragments of seven human skulls and other bones.

0.30-0.60. A little Trapeza and EM I, mostly EM II-MM I, one Byzantine sherd. Bronze knives (2, 5, 9). Bronze nail (16). EM III seal (5). Obsidian blade. Stone vases (3). EM III figurine (13). Fragments of six human skulls and a few other bones.

0.60-0.90. In the 19th metre virgin soil was reached practically at once. A little Trapeza ware. Some EM I, mostly EM II-III, some MM I. Fragment of stone vase. Fragments of three human skulls; no other bones.

16th metre 1.10-1.40. A stratum which includes the corresponding section (0.90-1.20) of the hole to the S. One Neolithic sherd, mostly Trapeza ware and EM I, a little EM II-III. Three human arm-bones.

17th metre 1.10-1.40, *N. side in black disturbed earth*. Some Trapeza ware, more EM II-MM I. Three fragments of gold leaf. Bone object (*n*). Beads (*d, f, 1*). Shell pestle (*r*). Stone vase (27). Few fragments of human bones.

18th metre 1.10-1.40, including the corresponding stratum (0.90-1.20) in the hole to the S. Two Neolithic. Mostly Trapeza ware, some EM I. A little EM II-III and MM I came from the N. side of the passage in rather blacker earth, not, however, to be clearly distinguished at the time. Whetstone (38). Fragments from stone vases already given. Fragments of one human skull.

16th-18th metres 1.40-1.70 *N. side in black disturbed earth*. Mostly Trapeza ware, a little EM I-III.

*The Undisturbed Stratum* (see section in Fig. 5).

17th metre 1.10-1.40. *S. half in red earth*, including the corresponding stratum (0.90-1.20) in the hole to the S. Much Trapeza ware. Two EM I sherds.

16th-18th metres 1.40-1.70 *S. half in red earth*, including the corresponding deposit (1.20-1.50) in the hole to the S. Entirely Trapeza ware. Sheep's bones, goat's horn.

20th-22nd metres 0-0.30. Some EM I, mostly EM II-III, some MM I. Bronze nail (14). EM III figurine (7). Crystal pendant (*f*). Fragments of stone vases (8, 17). Fragments of six human skulls, many other human bones.

0.30-0.60 (virgin soil). A few EM I, rather more EM II-III, one MM I cup. A few splinters of bone.

23rd metre 0-0.20. A few EM III and MM I. One human jaw-bone.

- E. A side chamber opening off  $\Delta$  9 and 10. When first inspected (30.5.35 and again 29.6.35) this chamber was strewn with bones. These had been removed before we began to excavate and some digging had been carried on.

Entrance 0-1.40. EM II-III sherds and very few of them. Two splinters of bone.

Chamber 0-0.30. One Neolithic, one EM I, some EM II, one MM. I. One human jaw-bone, one sheep's jaw, many splinters.

0.30-0.60. One Trapeza ware sherd, four EM II-III, one MM I. Fragment of one human skull and splinters.

- Z. Chamber with very narrow entrance opening off  $\Delta$  22. No sherds. Jaw-bone of a sheep.

#### D. Conclusions.

Briefly, then, the history of Trapeza may be summarised as follows. At the end of the Late Neolithic period and during most of the Sub-Neolithic-EM I period it was a place of habitation, like many other caves.<sup>1</sup> This is practically proved by the fact that the undisturbed stratum contained no human, but only animal bones as well as cooking pots. By the EM II period the custom of communal interment had come in and, as often happens in primitive times, the dwelling of a previous age was adopted or imitated for a tomb. Burials certainly continued here until the end of EM III. The MM I pithoi found in the cave may point to the survival of the custom of interment there into that period. An alternative suggestion would be that the MM I remains are in the nature of offerings, just as it seems that in the Messara at this time the circular built tombs were no longer used as burial-places, but still received votive-gifts, some of them, as Agia Triadha, actually having special annexes erected. Before the end of MM I, but not before a few fragments of the highly localised MM II style had been imported from Knossos or Phaistos and an early XIIth Dynasty scarab from Egypt, the cave was abandoned, and its place was taken by the Diktaian Cave on the opposite side of the plain at Psykhro, where the earliest objects date from the very end of MM I (*i.e.*, just before the beginning of MM III). Remains of a later date at Trapeza are negligible.

<sup>1</sup> *E.g.* Amnisos Προκτικά 1929 p. 95; Kamarais BSA XIX p. 12; Magasa *ibid.* XI p. 260; Miamou, *Mont. Ant.* IX p. 303; *AJA* 1897 p. 287; Potisteria *Mitt. über Höhlen und Karstforschungen* 1928; Skalais BSA VIII p. 235; Zakros *ibid.* VII p. 142.



*Note.*—Since in the section on Pottery some confusion may easily arise as to the overlapping of periods in various parts of the island, it is advisable to give a short table showing how in our opinion the series goes in the Centre, South and East of Crete.

Approximate Dates	Central Crete	South Crete	East Crete
B.C. 3000	THE NEOLITHIC PERIOD		
„ 2900	SUB-NEOLITHIC		EARLY MINOAN I
„ 2800	EARLY MINOAN I	EARLY MINOAN I	
„ 2700 „ 2600 „ 2500	EARLY MINOAN II		
„ 2400 „ 2300	EARLY MINOAN III		
„ 2200	MIDDLE MINOAN Ia	MIDDLE MINOAN I	MIDDLE MINOAN I
„ 2100 „ 2000	MIDDLE MINOAN Ib		
„ 1900	MIDDLE MINOAN IIa		
„ 1800	MIDDLE MINOAN IIb	MIDDLE MINOAN IIb	
„ 1700	MIDDLE MINOAN III		

Naturally the absolute chronology is purely approximate, and may easily err by as much as a century either way. It should be noted that the positive dates are taken from the hitherto accepted Egyptian chronology, which makes the EM period almost impossibly long. Fortunately, however, there are signs that the date of the Ist Dynasty may soon be brought down to about 3000 B.C. and the later dates lowered accordingly until the XIIth Dynasty, the beginning of which is astronomically fixed to 2000 B.C.<sup>1</sup>

Lasithi as a whole from EM II onwards would seem to belong chronologically, though not altogether culturally, to the East.

<sup>1</sup> Scharff *Journal of Egyptian Archaeology* XIV p. 275. *Historische Abschnitt der Lehre für König Merikarê* p. 54.

*E. The Pottery.*

(Plates 7-13, Figs. 6-20.)

The pottery of the Trapeza Cave was unstratified except in one instance—namely, the Trapeza ware strata Δ 17. 1·10-1·40 S. and 16-18. 1·40-1·70 S. For this reason it has had to be dated entirely stylistically, and in Crete this is not easy, owing to the overlapping of periods in different parts of the island, and to the rarity of properly stratified sites. Moreover, the number of whole vessels found was small compared with the total number of sherds, and many of the latter have had to be included in the detailed descriptions which follow, in order to avoid giving a wrong impression of the general material, even when their reconstruction is open to doubt. It has been found convenient, except in the cases of the Neolithic and Trapeza wares, which have been treated separately, to divide the finds arbitrarily according to their shapes, and to arrange each class more or less in chronological order, since it is easier to say whether, for instance, one cup is earlier than another than whether either is contemporary with a jug. A date has been given for every piece, but these are to be accepted with reserve. It must also be remembered that the shapes really merge into one another, and that the distinction between cups, bowls and dishes is often a matter of opinion; but this method seems to present fewer difficulties than any other, and to be the first step towards achieving a real corpus of Minoan pottery. In the introduction to each class an attempt has been made to give parallels from other sites and to assign the Trapeza vessels to their proper periods. Drawings and sections have been given wherever possible. Vessels now restored in the Candia Museum have been treated as whole specimens except in the sections, but in those cases where the restoration is merely on paper, the existing sherds have been sketched in. Everything is hand-made unless the contrary is expressly stated.

The pottery is almost entirely Minoan, although two or three sherds seem to be Greek, and some medieval and modern fragments occurred on the surface and immediately outside the cave. The bulk of it belongs to the EM II and III periods, but there is also a fair proportion which must be ascribed to MM I. Specimens later than this are rare, and seem to have found their way to the cave after it had fallen into general disuse. The Neolithic wares resemble those of East Crete, but at the very end of the Neolithic Period and in Sub-Neolithic times there was an entirely local development, and this perhaps explains the scarcity of EM I finds, for the makers of Trapeza ware were probably in part contemporary with the EM I population of the coastal districts. Again in EM II and III the influence of the Eastern centres is obvious, but

when the balance of power was shifting towards the centre of the island, and when MM Ia pottery appeared at Knossos, Mallia and Tylissos, Lasithi, like the rest of Crete, seems to have persisted along its ancient lines, preserving the connection with the declining East. The influence of the rising North is, however, shewn by the MM I pottery at Trapeza, and the tendency was to import and imitate Knossian fabrics, though it must be remembered that MM I at Trapeza, as at other Eastern and Southern sites in Crete, corresponds in date with the MM Ib and the MM II of the capital.

Thus the pottery from a rather isolated region, although possessing markedly local features, better reflects the general history of Crete than does that from many more important sites whose history was less peaceful.

*Neolithic. N.*

(Plate 7, Fig. 6.)

Many fragments of Neolithic pottery were found, mostly in the lower levels. The clay varies from brown to black, and is rather coarse. The surface is burnished, but never so brilliantly as in the best Neolithic fabrics of Knossos. Sometimes there is an incised decoration consisting of a series of dashes (N. 1-3) or parallel rows of dots (N. 4). The incision does not appear to have been filled with white,<sup>1</sup> but the sherds are generally too much worn for this to be certain. The shapes represented are mainly open bowls and dishes, but it was impossible to restore any complete pots. The handles are of the usual tubular Neolithic type (N. 5-7) with the exception of N. 8, which, with its triangular section, is most peculiar. A similar handle in Trapeza ware was afterwards found on the Kastellos, but from other sites the only ones which bear the least resemblance to it are from the Neolithic levels at Phaistos,<sup>2</sup> and these are not identical. One sherd (N. 9) is of particular interest, since it seems possible that it represents part of a face of the type found in Trapeza ware (T. 11-13). It is unfortunately much damaged, but it certainly bears an impression closely resembling an eye. This Neolithic pottery is in general similar to that found at Magasa,<sup>3</sup> and should be contemporary with the Late Neolithic of Knossos.

On account of their poor condition no sections are given of the Neolithic sherds.

N. 1 (Pl. 7).—Sherd, broken all round, of brownish clay with low burnish. Decoration of six or more parallel incised dashes.

N. 2 (Pl. 7).—Sherd, broken all round, similar fabric to N. 1 but with a harder finish. In the centre a group of four parallel incised dashes.

<sup>1</sup> Cf. *P of M I* p. 36.

<sup>2</sup> *Festòs* p. 101 Figs. 44 and 47.

<sup>3</sup> *BSA XI* pp. 260 ff.

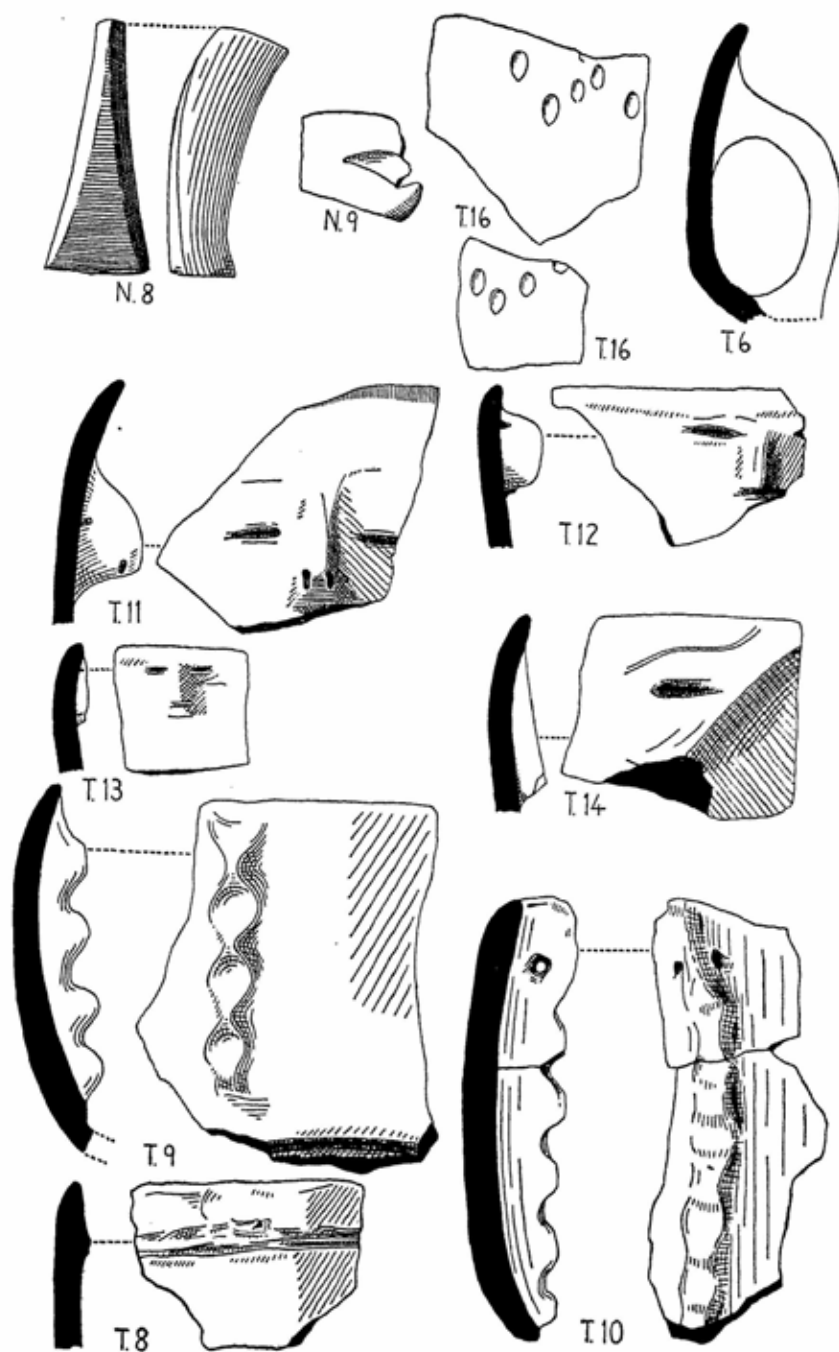


FIG. 6.—NEOLITHIC AND TRAPEZA WARE.

Scale, 1 : 2.

- N. 3 (Pl. 7).—Sherd, broken all round, similar fabric to N. 2. Decoration of short, widely spaced, incised dashes.
- N. 4 (Pl. 7).—Sherd, broken all round, similar fabric to N. 1. Decoration of five or more parallel rows of incised dots.
- N. 5 (Pl. 7).—Rim and handle of dark brown clay with black burnished surface. Probably from open bowl.
- N. 6 (Pl. 7).—Handle in brown gritty clay with badly burnished surface varying in colour from yellowish brown to black. Probably from bowl.
- N. 7 (Pl. 7).—Handle in almost black clay with well burnished surface. The handle is very small and comes from a vessel of unusually fine fabric.
- N. 8 (Pl. 7, Fig. 6).—Handle in dark clay with black burnished surface, triangular in section at the top, but broadening lower down and almost flattened at the point where it must have joined the side of the vessel.
- N. 9 (Pl. 7, Fig. 6).—Sherd, broken all round, in dark, brownish clay with black burnished surface. There is a knob possibly representing a nose, at one side and near this an indentation resembling an eye. It is possible that the knob was merely coming out to an ordinary tubular handle.

### *Trapeza Ware. T.*

(Plates 7 and 8. Figs. 6 and 7.)

The type of pottery to which, for the sake of distinction, the name of Trapeza ware has been given occurred at all levels, but always in greatly increased proportion below 0.80. In the stratum  $\Delta$  17. 1.10–1.40 S. it was found unmixed, except for one sherd, probably from a suspension pot, of the grey powdery clay described below (see 109–19), and another of coarse dark fabric with two parallel lines on it in chalky white paint, both of which may belong to EM I.<sup>1</sup> Below 1.40 it was the only ware represented in  $\Delta$  16–18 S., but only a few fragments of it were recovered at this depth, since virgin soil began at about 1.50. The Trapeza ware sherds from these strata mentioned in the detailed description which follows are marked with an asterisk; the rest were of the usual types, but too fragmentary to be catalogued. In other parts of the cave the ware was associated with the Neolithic pottery described above (N.), as it was also on the Kastellos and in the Skaphidhia Cave, and it seems more than anything else to resemble the coarser unpolished Late Neolithic fabrics of Knossos, Phaistos and the Miamou Cave.<sup>2</sup>

The clay is always gritty and badly baked. On the break it varies in colour from reddish-brown to black. The surface is without slip, and only very occasionally polished (T. 2–4), although it often shews shallow scorings, as though from wiping while wet (T. 17–19), a feature also observable on Late and Sub-Neolithic sherds from Knossos. The characteristic colour is a mottled combination of purplish-red and black in small patches.

<sup>1</sup> The use of white paint during this period is vouched for by Mackenzie, *JHS* XXIII p. 165; cf. also *P of M I* p. 63; *BSA X* p. 201, Fig. 3 a; *BSA Supp. I* p. 4, Fig. 1.

<sup>2</sup> *P of M II* p. 9. *Festós* p. 93. *AJA* 1897 p. 287.

This is quite unlike the mottling of Vasilike wares,<sup>1</sup> and does not seem to have been produced by firing, but to be due to some agent in the clay itself.<sup>2</sup> In a few cases the outside is yellowish-brown and the interior entirely black (T. 7), and on such fragments the two surfaces have frequently

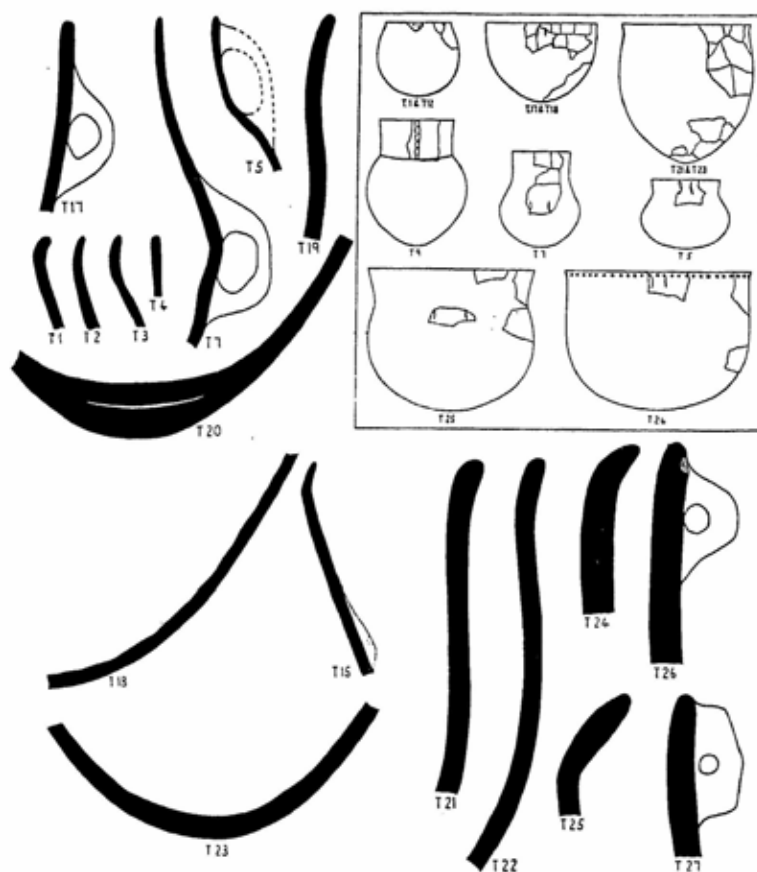


FIG. 7.—TRAPEZA WARE, SECTIONS AND RESTORED POTS.

Scale, sections 1 : 4, restored pots, *c.* 1 : 30.

split apart. The vessels represented are entirely hand-made, and sometimes seem to have been built up in strips. The ware has a slightly lumpy feel

<sup>1</sup> Cf. *Gournia* p. 50.

<sup>2</sup> This clay seems to be the same as that used for various later vessels, in particular the cups (501-12, 524) the dishes (301-15) and the pithoi (920-22), but when it is properly baked the mottling does not shew. It is presumably local. A few pithoi are still made in Lasithi at Pinakiano, the clay coming from Agios Georgios or Kato Metokhi.

which is unmistakable, no matter what the variations in colour. Unfortunately it is extremely friable, and it was found impossible completely to restore any one pot.

No flat sherds occur, and it is therefore to be presumed that all bases were round or egg-shaped. Several such could, in fact, be pieced together (T. 18, 20, 23). They are usually rather thicker than the side walls, but the double thickening of T. 20 is unique.

The rims are either upright or slightly outplayed. They are generally plain, but T. 8 is thickened to a band, and from the Kastellos there later came an example with parallel cuts along the top, a method of decoration found again in MM III, and which seems to have persisted in Lasithi almost to the present day. One type of jar (T. 9) seems to have been 'two-storied' with a collar neck some 8-10 cms. high and a groove where this joined the bulging shoulder.<sup>1</sup> The diameter of all vessels must have been large, varying from about 20 to 40 cms. Probable shapes are restored in Fig. 7.

The handles are nearly all of the tubular Neolithic type.<sup>2</sup> They are placed either at the rim (T. 5), a little way below it (T. 17) or low on the shoulder (T. 7), and vary in horizontal length from 3 to 8 cms. The method of attachment was apparently to pinch up two horizontal ridges from the clay of the wall and to apply over these the ends of the strip forming the handle. In some instances the handle has come off and the ridges below are clearly visible. T. 6 is longer vertically, and stands out more freely from the vessel than usual.<sup>3</sup> Its edges are slightly bent up towards the centre, and it seems to shew how the transition between the tubular and the loop handle was effected.

The most interesting feature of Trapeza ware is its moulded decoration. Seven specimens of the 'tress' shewn in T. 9 were found, although some are doubtless from the same vessel. This consists of a band of clay applied vertically and pinched up at intervals in much the same way as the later rope mouldings on large pithoi (cf. 902-15). T. 10 is pierced horizontally through the top projection and the appearance of eyes which is thus given perhaps shews how the faces (T. 11-13) originated, although they may equally well have been suggested by the front view of an ordinary handle. These tresses occur only on the 'two-storied' jars, and the decoration always stops at the junction of neck and shoulder.

The faces T. 11-13 may belong to the same class of vessel, or else to bowls such as T. 1. They all shew a somewhat similar physical type, with a strongly marked aquiline nose and rather long slit eyes. The fragment T. 14 may also have been intended to represent human features, since the eye and eyebrow are clearly marked, but the ridge which should form the

<sup>1</sup> Cf. *Mon. Ant.* XIX p. 170 Fig. 22.

<sup>2</sup> Cf. *P of M* II Fig. 3 q and r.

<sup>3</sup> This has inadvertently been photographed upside down in Pl. 7.

nose is at an acute angle to these. T. 15, again, has a ridge with an eye, but in this case the 'eye' is upside down. These diagonal ridges are, in fact, rather inexplicable. It is possible that they were not purely decorative, but came down to a ledge or wing handle.<sup>1</sup> Two exceptional sherds (T. 16) shew a zig-zag pattern of very shallowly impressed dots which is paralleled at Phaistos.<sup>2</sup>

With the Trapeza ware proper were found many fragments of large cooking-pots, which must be contemporary (T. 24-7). The clay is again coarse, but the surface more frequently polished (T. 24, 26). The colour varies from orange to black, but does not shew the typical small mottling of the finer fabrics, and rounded sherds, seemingly from bases, are generally blackened right through. The rims are again upright or outspread, but T. 25 is turned back in an exceptional manner. One vessel (T. 26) has a series of circular impressions round the rim with two or more handles immediately below. The handle (T. 27) is almost square in profile, and has an exact counterpart from Knossos.<sup>3</sup>

Apart from the stratigraphical evidence of Δ 17. 1.10-1.40 S. and Δ 16-18. 1.40-1.70 S., the Cretan analogies of Trapeza ware cited above clearly prove that it belongs to the transitional period between Neolithic and EM I. (This was also conclusively shewn in the Skaphidhia cave, where above the existing floor-level there was found one small dark grey suspension pot, and below it nothing except Neolithic and Trapeza ware sherds, the latter being rather more frequent towards the surface.) Its foreign relations seem to confirm the suggested Anatolian element in the Cretan stock.<sup>4</sup> The shapes of the pots are perhaps too simple and obvious for parallels to be of any value, but the moulded faces, although not identical, can only be compared with the face-urns of Troy,<sup>5</sup> and the features which they represent are as Armenoid as anything which has yet been found in Crete.<sup>6</sup> Moulded decoration in itself was never very common in the Aegean area except in those parts, such as Macedonia, Thessaly and Lesbos, where Anatolian connections were strong.<sup>7</sup> Lasithi is an isolated district, and it seems as though there the oldest racial element in Crete had remained purer and developed farther along its own lines than elsewhere in the island.

<sup>1</sup> Cf. *Dhimini Sesklo* p. 262 Figs. 169 and 170. Goldman *Eutresis* p. 93 Fig. 116. Lamb *Thermi* p. 82 Fig. 29 a.

<sup>2</sup> *Festós* p. 104 Fig. 46.

<sup>3</sup> *P of M II* Fig. 3 u.

<sup>4</sup> *Ibid.* I p. 14.

<sup>5</sup> There cannot, of course, be any direct connection between the two since the Trojan face-urns (*Schliemann's Sammlung* p. 14) are later in date than Trapeza ware. What is here argued is a common racial source from which similar traits developed at different periods.

<sup>6</sup> Cf. *P of M I* p. 272.

<sup>7</sup> Cf. *BCH* 1917-19 p. 204 Fig. 24. *BSA* XXVII p. 54 and Pl. VII b.



*Note.*—An asterisk shews that the fragment came from the pure strata.  $\Delta$  17. 1.10–1.40 S and  $\Delta$  16–18. 1.40–1.70 S.

- T. 1 (Fig. 7).—Rim of bowl, probably globular in shape. Typical mottled surface. Dr. c. 25 cms.
- T. 2\* (Fig. 7).—Rim of bowl. Mottled surface polished on both sides. Dr. c. 25 cms.
- T. 3 (Fig. 7).—Rim of smaller vessel. Fabric as in T. 2. Dr. c. 12 cms.
- T. 4 (Fig. 7).—Straight, or slightly incurved, rim. Low polish inside. Dr. c. 30 cms.
- T. 5 (Fig. 7).—Rim and part of handle from vessel with upright neck. Fabric as in T. 1, but finer. Probably had two handles. Dr. c. 18 cms.
- T. 6 (Pl. 7, Fig. 6).—Handle, from same shape as T. 5, but larger and more outstanding, with its edges pinched up and in. Fabric as in T. 1.
- T. 7 (Pl. 8, Fig. 7).—Rim, shoulder, and handle from vessel of the same general shape as T. 5, but with the handle low on the shoulder. Clay yellowish buff outside, but completely black within. The two surfaces easily split apart. The black extends a short way over the rim. Dr. c. 19 cms.
- T. 8 (Pl. 7, Fig. 6).—Rim with thickened band. Clay redder than usual, and surface hardly mottled. Dr. c. 25 cms.
- T. 9\* (Pl. 7, Fig. 6).—Rim and neck with tress from 'two-storied' pot. Fabric as in T. 1. Dr. c. 20 cms. Five similar fragments, and others from same shape, but lacking the tress, one of which is from  $\Delta$  17. 1.10–1.40 S.
- T. 10 (Pl. 7, Fig. 6).—Rim similar to T. 9, but in thicker fabric and with less mottled surface. Top division of tress pierced horizontally. Too little remains of rim to tell diameter.
- T. 11. (Pl. 7, Fig. 6).—Rim with moulded face, probably from same shape as T. 1. Clay yellow and less mottled than usual. Top of rim blackened, but inside of vessel plain. Dr. c. 25 cms.
- T. 12 (Pl. 7, Fig. 6).—Rim with moulded face, probably from same shape as T. 1. Fabric as in T. 1. Dr. c. 25 cms.
- T. 13 (Pl. 7, Fig. 6).—Rim with face in lower relief than T. 11 or T. 12, probably from same shape as T. 1 or T. 9. Fabric as in T. 1. Dr. c. 20 cms.
- T. 14 (Pl. 7, Fig. 6).—Rim with eye and diagonal ridge perhaps representing a nose, probably from same shape as T. 1. Fabric as in T. 1. Dr. c. 30 cms.
- T. 15 (Fig. 7).—Rim and part of body of vessel with diagonal ridge and an eye-like impression, which, however, is upside down. Shape probably as in T. 1. Fabric as in T. 1. May be from same vessel as T. 14. Too little of the rim remains to tell the diameter.
- T. 16\* (Fig. 6).—Two sherds, which do not join, but should be from the same vessel, with shallowly impressed dots in zig-zag pattern. Fabric as in T. 1.
- T. 17\* (Pl. 8, Fig. 7).—Side and handle of open bowl. Surface mottled and shews shallow scorings on the lower sherds, running vertically, as though the sides had been wiped down before the clay was dry. Dr. c. 30 cms.
- T. 18 (Fig. 7).—Egg-shaped base of same fabric as T. 17, to which it may belong, although coming from the adjoining stratum.  $\Delta$  17. 0.60–0.90 Hole.
- T. 19 (Pl. 8, Fig. 7).—Side of open bowl. No handle appears to belong, although the clay is distinctive, since it is unmottled, browner than usual on the surface and shews even more distinct marks of wiping than T. 17. Dr. c. 34 cms.
- T. 20\* (Pl. 8, Fig. 7).—Base in exactly the same fabric as T. 19, to which it may belong. Double thickening underneath. Surface blackened as though by fire.
- T. 21 (Pl. 8, Fig. 7).—Side of bowl. Clay smoother than usual on the surface and approaching more nearly to that of the large cooking-pots T. 24–7, although still rather mottled. Dr. c. 34 cms. From  $\Delta$  17. 1.10–1.40 N.

- T. 22\* (Fig. 7).—Side and rim of bowl in exactly the same fabric as T. 21. It may, in fact, belong to the same vessel, although the curve of the side seems rather different. Too little rim remains to tell diameter.
- T. 23\* (Fig. 7).—Egg-shaped base, much blackened by fire. Same fabric as T. 21 and 22, to either or both of which it may belong.
- T. 24\* (Fig. 7).—Rim and handle from cooking-pot in thick ware. The surface varies in colour from red to black and is slightly polished outside. The handle and rim do not join, though apparently from the same vessel. Dr. c. 50 cms.
- T. 25\* (Fig. 7).—Outsplayed rim in thick ware. Surface brownish buff, and smooth but unpolished. Dr. c. 22 cms.
- T. 26 (Pl. 7, Fig. 7).—Rim and handle from cooking-pot in thick ware. Fabric as in T. 24. A series of circular impressions decorates the rim. Dr. c. 50 cms.
- T. 27 (Pl. 7, Fig. 7).—Handle and rim in thick ware. Reddish clay unpolished on the surface. The handle is almost square in profile. Too little remains of the rim to tell diameter.

*Bowls.* 100.

(Plate 8, Figs. 8 and 9.)

Three bowls with horizontal loop handles and flat bases, in a technique similar to that of the covers (401-9) are of unusual type (101-3). The clay is dark grey or reddish, the wall thick, and the surface burnished to grey or black. A large, handleless bowl was found at Amnisos,<sup>1</sup> and a smaller one at Porti,<sup>2</sup> while one with two horizontal handles occurred at Zakros,<sup>3</sup> all with a burnished finish, but the shape does not in general make its appearance before MM I.<sup>4</sup> The Trapeza examples are reminiscent of Neolithic vessels, but their handles and bases prove them to be at least as late as EM I, and it is probable that they are contemporary with the covers which they resemble, and belong to the EM II period. It is, however, possible that 103 at least is an intentional imitation of stone, for at a casual glance it is almost indistinguishable from a stone bowl from Mallia,<sup>5</sup> and in this case it can hardly be earlier than MM I.

Several fragments (104-8), rather finer than the above, but of similar fabric, have been included as bowls, although their shapes are conjectural. Their burnish is degenerate, and it would be unsafe to place any definitely earlier than EM II, although the base (104) resembles some from Partira,<sup>6</sup> which should be EM I. The squat profile of 105 should be compared with that of certain pots from Pyrgos.<sup>7</sup>

A number of sherds (110-18), one complete pot (109) and a pyxis lid (119) are of the grey powdery ware which has been found on nearly all EM sites. The clay is grey throughout, and either so soft that it crumbles

<sup>1</sup> Πρακτικά 1930 p. 95 Fig. 5.

<sup>2</sup> *VTM* p. 58, 5116 Pl. XXXIV.

<sup>3</sup> *BSA* VII p. 143 (not shewn in Fig. 52. *CM* 2322).

<sup>4</sup> Cf. *VTM* p. 58, in particular 5086 Pl. XXXIV and *Mochlos* p. 86 M 91.

<sup>5</sup> *CM* 2225, unpublished. Cf. *Mochlos* p. 47 Fig. 18 IV 1 for dating.

<sup>6</sup> *CM* 9201, 9204, 9900.

<sup>7</sup> *Αρχ. Δελτ.* 1918 p. 152 Fig. 12, 96-8.

to nothing or so brittle that it flakes away like slate. The surface is sometimes plain and sometimes polished to a blacker tone. As in other districts, the commonest shape is the globular bowl or suspension pot. This generally has a flattened base, but the conical foot (118) probably comes from such a

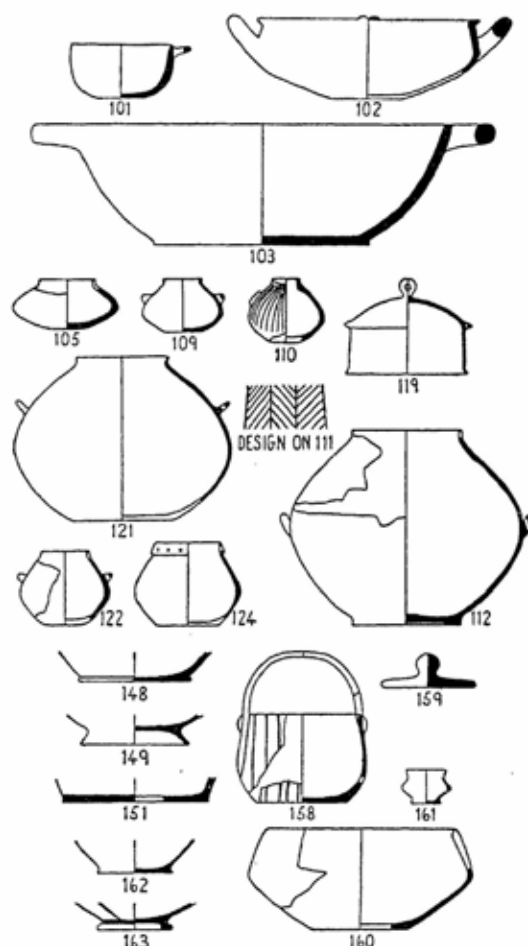


FIG. 8.—BOWLS.

Scale, 1 : 6.

vessel rather than from a goblet,<sup>1</sup> and there is one sherd (117), flat on the inner surface but convex without, and possessing a small knob, which may be from a tripod example.<sup>2</sup> Several small, vertically pierced lugs were

<sup>1</sup> Cf. *Gournia* p. 56 Fig. 37, 9. *VTM* p. 9 4193 Pls. I and XVIII.

<sup>2</sup> Cf. *VTM* p. 35, 4189 Pls. I and XXV.

found, as well as tiny loop handles like those on 109. It seems likely that these lugs were merely used to attach a lid, and not to suspend the whole vessel, since their piercings are too small to admit more than a thread,<sup>1</sup> and this is further proved by the occurrence on a pot from Vasilike of real handles as well as lugs.<sup>2</sup> These suspension pots sometimes have a low collar<sup>3</sup> (109-12), and sometimes a projection inside the neck<sup>4</sup> (113) to receive the lid. At least five of the vessels from Trapeza are incised (110, 110a and b, 111, also the spouted bowl 205). It has been suggested that EM incision was derived either from local Neolithic or from contemporary Cycladic originals.<sup>5</sup> It seems, indeed, to be divisible into two classes: one with its source in East Crete and degenerating towards the South and Centre,<sup>6</sup> in which the decoration consists mainly of concentric half-circles and chevrons, running in horizontal zones; the other confined to the North and found chiefly at Pyrgos, in which the design is not curvilinear and is usually divided vertically. The former has hitherto been found only on suspension pots,<sup>7</sup> and seems to die out when these ceased to be made, but the best examples of the latter are on a high-necked shape<sup>8</sup> which must be Cycladic in origin,<sup>9</sup> while it also occurs on a jug of EM II type<sup>10</sup> and continues on cylindrical pyxides until MM I.<sup>11</sup> 110 and 111 appear to shew an overlapping of these two classes, and the latter in particular, although apparently of the same shape as vessels with the East Cretan decoration, has the typical North Cretan vertical fish-bone pattern. The shallowness of their incision, which seems to have been done with a blunt instrument presumably not unlike a polisher, also brings them into relation with the pattern burnished wares of the centre of the island,<sup>12</sup> although they are probably later than these in date. It is noteworthy that incision of both types—i.e., done with a sharp and a blunt instrument—is found in the Cyclades.<sup>13</sup> The cylindrical lid (119) must again be compared with a Cycladic shape,<sup>14</sup> although it has counterparts at Pyrgos, Arkalokhori and Salame.<sup>15</sup> It is unfortunately impossible to place these grey wares chrono-

<sup>1</sup> Cf. *Annuario* XIII-XIV p. 12.

<sup>2</sup> *Gournia* p. 50 Pl. XII 13.

<sup>3</sup> *VTM* pp. 34, 36 Pl. XXV. *Gournia* p. 56 Pl. A. 5; *BSA* VII p. 142 Fig. 52.

<sup>4</sup> *VTM* p. 34, 4294 Pl. XXV.

<sup>5</sup> *P of M* I p. 60; *Frankfort Studies* II p. 114.

<sup>6</sup> This type is native to Crete, but can hardly be related to Neolithic wares, since in East Crete Neolithic incision is very rare.

<sup>7</sup> The spouted pot (205) below is a new type (*q.v.*).

<sup>8</sup> *Αρχ. Δελτ.* 1918 pp. 150-51 Figs. 8 and 9, 49, 50, 67-9.

<sup>9</sup> Cf. *Frankfort Studies* II p. 114. The necks on these bottles are narrower than is usual in the islands, but they are not unparalleled. See *JHS* V pp. 54, 55 Figs. 10 and 11; *Ath. Mitt.* 1886 p. 19 Pl. 2 B 2.

<sup>10</sup> *Αρχ. Δελτ.* 1918 p. 151 Fig. 9, 63.

<sup>11</sup> *P of M* I pp. 114 and 175.

<sup>13</sup> *Εφ. Αρχ.* 1898 p. 180.

<sup>15</sup> *Αρχ. Δελτ.* 1918 Fig. 9, 61. *BSA* XIX p. 39 Fig. 4, 1. *VTM* p. 74 Pl. XL.

<sup>12</sup> *Ibid.* I p. 59.

<sup>14</sup> *Phylakopi* p. 84 Fig. 70.

logically except to within the limits of EM. The incised suspension pots are usually attributed to EM I,<sup>1</sup> and probably correctly so for East Crete, but in the Messara even this type seems to continue into EM II,<sup>2</sup> while of the present specimens 111 and 119 might well be brought down to EM III when influence from the islands was strongest.<sup>3</sup> If the shape is uncertain the fabric by itself is not a sufficient guide for dating.

Fine, polished, buff pottery, with geometric decorations in dark paint, can more easily be ascribed to EM II,<sup>4</sup> but of this there is only one sherd (120), although several plain fragments, in the same characteristic ware, were found.

The suspension pot also occurs in red clay (121-3), with or without a dark surface wash. Vessels of this kind have frequently been found on other sites.<sup>5</sup> They differ in shape from the earliest grey ones in their lower shoulder and less pronounced collar, and should be dated to the transitional EM II-III period. 121 is an interesting example, since it possesses a collar and its clay is not burnt red right through. Some other sherds in similar fabric, red without but grey within, were associated with pottery from Trapeza ware to EM II, so that in spite of its wash it may be earlier than 122 and 123.

Two small pots with perforations all round the rim belong to a type of which only one specimen has previously been found in Crete,<sup>6</sup> although such perforations, on larger vessels, are characteristic of the early wares of Macedonia.<sup>7</sup> The clay is red near the top, but black right through below, as though from contact with fire. The double thickening of 125 is unique, and in conjunction with this blackening towards the base perhaps indicates some sort of stand formed by a prolongation of the outer layer, in which charcoal might be placed. Both pots are probably EM, but in the absence of further parallels exact dating is impossible.

Many fragments were found of bowls in red ware, with the surface either plain (126, 131, 132, 136) or more often slightly burnished with or without a slip (127, 128, 130, 133, 134, 137-44, 146-50), or occasionally with a dark wash (129, 135, 145, 151). Some, particularly those with

<sup>1</sup> *P of M I* p. 60. *Gournia* p. 50. It is worth noting that a grey sherd was found in the Trapeza ware stratum Δ 17. 1.10-1.40 S., while another occurred on the Kastellos in an equally early context, and a small suspension pot was the latest find in the Skaphidhia Cave, where, however, it was on the existing floor level above the Neolithic and Trapeza ware pottery.

<sup>2</sup> *Annuario XIII-XIV* pp. 13-14.

<sup>3</sup> For Cycladic connections in North and South Crete see Aberg *Chronologie* IV pp. 242 ff.

<sup>4</sup> *P of M I* p. 74.

<sup>5</sup> *VTM* p. 36. Six examples Pl. XXV p. 52, 5013, 5012, Pl. XXXVI. *Vrokastro* p. 183 (no illustration). *Annuario XIII-XIV* p. 13.

<sup>6</sup> At Krasi 'Αρχ. Δελτ. 1929 p. 115 Fig. 9, 7.

<sup>7</sup> *BSA* XXVII p. 17 Pl. VII a.

handles, may have had spouts, but are included here rather than below owing to lack of evidence on this point. The rims are generally turned out (126-32, 134, 138, 142), but sometimes merely thickened with a flat top (133, 137, 139), which in two cases (135, 136) has become a definite projection. The former is pierced, and 134 has two lugs with similar holes

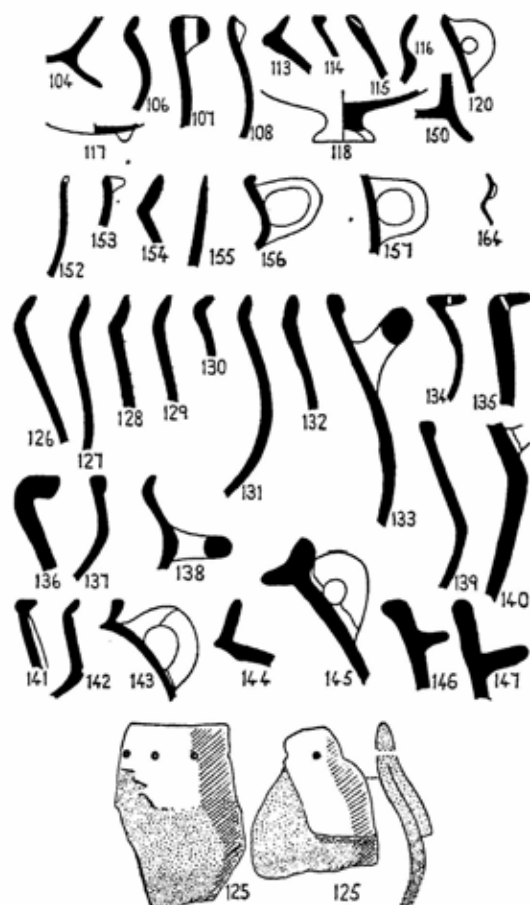


FIG. 9.—BOWLS.

Scale, 1 : 3.

through them. 143-5 have ledges inside the neck on which the lid could rest, and should be compared with the grey rim (113). 146 and 147 have ridges outside, on the shoulder, to serve the same purpose, and since the lids here had to fit over the rims, these are plain and not outspayed. No vessels of this last type have previously been recovered in Crete. The shapes

are as a rule globular, but 137-42 are more open, with a carinated profile perhaps resembling that of 211. 135 is exceptionally straight-sided. Unfortunately these bowls are too fragmentary for it to be possible to join any rims and bases together, but the latter seem generally to have been plain and flat (151) or with a slight groove just above the turn (148). Occasionally one occurs with a definite kick (149), and this is seen in its most exaggerated form in 150, which is reminiscent of the black burnished example (104) above. Handles are either horizontal (133, 138, 140) or vertical (143, 145). The moulding on 141 is exceptional. So little attention has previously been paid to undecorated Minoan pottery that, owing to lack of stratigraphical evidence from other sites, it is impossible to date these sherds with certainty. Those with a red or black wash are probably EM III, and 145, 151, with added yellowish-white paint, undoubtedly belong to this period, although the former resembles the rim of a bridge-spouted bowl in mottled ware from Vasilike,<sup>1</sup> which may come from the end of EM II. Of the rest it can only be said that they fall between EM II and MM I.

Bowls in buff clay are fewer. Examples of rims are given in 152-5. 156 and 157 are included here rather than with the cups owing to the lowness of their sides compared with their diameters. These six are all probably transitional between EM III and MM I, and the basket-like vessel (158) should be contemporary, since, although the quality of its paint would place it early, the only parallel to its shape is an MM I vase from Dhraikonais.<sup>2</sup> The lid (159) equally seems to be EM III in fabric, but to correspond with an MM I type. It should be compared with one from Vorou with dark on light decoration of the latter period.<sup>3</sup>

160 and 161 are from their technique more clearly MM I, although there are no exact parallels for either from previous excavations. 162 is in exactly the same ware as the fine MM I cups (525-7 and 530-3 below) and must be of the same date, although, since only its base remains, the shape is uncertain.

The base (163) is unusual, and possibly not Minoan at all, but it seems to resemble more closely than anything else the bases of MM II Tazzas,<sup>4</sup> although these Tazzas, owing to their open shape, are generally decorated within. The polychrome sherd (164) is a typical example of MM II Knossian fabric, although the inward recurve of its rim is not common. The red glaze characteristic of MM Ib-II<sup>5</sup> is represented by one sherd only (165).

There are no bowls which can be ascribed to a later date than MM II.

<sup>1</sup> *CM* 5313.

<sup>2</sup> *VTM* p. 78, 4965 Pl. XLII.

<sup>3</sup> *Αρχ. Δελτ.* 1930 p. 157 Fig. 20.

<sup>4</sup> See *P of M I* Supp. Pl. III; IV p. 135 Figs. 104 and 105.

<sup>5</sup> See *ibid.* I p. 168.

I. *Burnished.*

101. EM I-II (Pl. 8, Fig. 8).—Small bowl. Clay reddish. Surface burnished black. Very thick wall. Base flat with sides curving up to the vertical. One horizontal handle projecting from the rim.
102. EM I-II (Pl. 8, Fig. 8).—Bowl. Base restored. Clay reddish, but coarse. Surface burnished black. The sides curve in sharply about 3 cms. below the rim, and at the angle thus formed two horizontal handles project at either side in line with the lower half of the vessel. Between these handles are two double sets of small knobs on the rim itself.
103. EM I-II (Pl. 8, Fig. 8).—Large grey bowl. The clay is dark grey and the surface burnished, so that at first sight the vessel has the appearance of being made of stone. The base is flat and slightly offset. The handles, one of which is conjectural, stand out flat from the rim.
- a. Two similar bases, but the clay reddish and black burnished as in 101–102.
104. EM I-II (Fig. 9).—Hollow base. Clay reddish. Surface burnished black. Dr. c. 10 cms. outside.
105. EM I-II (Fig. 8).—Base of small pot with low bulging shoulder. Clay coarse and reddish brown in colour. No slip or polish but surface smoothed over outside.
- a. Fragments from several others of similar fabric and shape.
106. EM I-II (Fig. 9).—Rim of low bowl. Coarse reddish clay. Traces of black burnish both inside and out. Slight groove below rim. On another sherd which seems to belong to the same pot the clay is dark grey right through, as though from uneven baking. Dr. c. 8 cms.
107. EM I-II (Fig. 9).—Two fragments from bowl with suspension lugs at rim. Coarse red clay with dark burnish on both sides. Dr. c. 6.5 cms.
108. EM I-II (Fig. 9).—Rim of bowl of similar shape to 107. Same clay and burnish. The lugs have degenerated into mere knobs. Dr. c. 7 cms.

II. *Grey Ware.*

109. EM I-II (Pl. 8, Fig. 8).—Suspension pot. Grey, powdery clay with traces of dark burnish outside. Surface much worn. Roundish base. Low collar. Shoulder rather low, with two small loop handles placed above it horizontally at either side of the vessel.
- a. Fragments of some two others similar, one with handles; also some, including a base (Dr. c. 5 cms.), from a rather larger type.
110. EM I-II (Fig. 8).—Suspension pot. Base and top of rim missing. Wall rather thick for the size of the vessel. Surface much worn, but shows traces of vertical grooving from neck to below shoulder. There is a broken knob on the shoulder, but this is so much worn that it is impossible to tell what it signifies.
- a. Some sherds, similar, but in rather coarser browner clay. Same decoration.
- b. Sherds from a similar pot, but larger. Dr. at shoulder c. 8 cms. Clay flakes away very easily. Same decoration. A small roundish base may belong to this.
111. EM I-II (Fig. 8).—Many fragments from another, larger, and with a higher collar, but too much broken to tell exact shape. Vertical bands with slanting hatching between, very lightly incised, make a 'fish-bone' design on the body.
112. EM I-II (Fig. 8).—Suspension pot of very flaky grey clay. Surface so worn that it looks almost like slate. Top of neck missing, and the shoulder and base do not quite join, but the shape is fairly certain. The base has a flat ring, which is unusual. Two handles remain, consisting of applied pieces of clay turned up towards the rim and vertically pierced.
- a. Another base, like the above but without any ring below. Dr. c. 2.5 cms.



113. EM I-II (Fig. 9).—Rim of grey clay, with a projection inside the collar on which the lid can rest. Dr. c. 7 cms.
114. EM I-II (Fig. 9).—Rim of grey clay, turned back and flat on top. Dr. c. 13 cms.
115. EM I-II (Fig. 9).—Rim of grey clay. Dark burnish outside. Inside plain and rough. The rim is pierced diagonally apparently in four places, only two of which remain. Dr. c. 8 cms.
116. EM I-II (Fig. 9).—Rim of bluish-grey clay, from bowl with carinated shoulder. Dr. c. 7 cms.
117. EM I-II (Fig. 9).—Sherd rounded on outer surface, but more or less flat within. A small knob at one side. Presumably the base of a tripod suspension pot, since there seem to be traces of where another knob was attached, and a second precisely similar one was found separately.
118. EM I-II (Fig. 9).—Hollow conical base in grey clay. End of foot broken off, so exact height uncertain.
119. EM I-II (Pl. 8, Fig. 8).—Pyxis lid of fine grey clay. Surface slightly polished both inside and out. Probably fitted over a cylindrical pyxis. The sides rise vertically to a projecting ridge, through which four minute string-holes are pierced. The top is domed, and must have finished in a knob which is now broken off.
- a. Some sherds from another similar, and two perhaps from the pyxis to which one of these belonged.

### III. Buff Ware with Dark Paint.

120. EM II (Fig. 9).—Rim in fine polished buff clay with lug handle shaped like a half-disc and horizontally pierced. Decoration of cross-hatched diamonds between two horizontal lines in dark paint.
- a. Several plain fragments in similar ware but of uncertain shape.

### IV. Suspension Pots in Red Ware.

121. EM II-III (Pl. 8, Fig. 8).—Suspension pot. The clay is pinkish-red outside but grey within, and there seem to be traces of a dark wash all over the outer surface. The base is restored, but the shape is roughly globular, with the widest part rather below the centre. Low collar. Two lugs, doubly pierced, one at either side.
- a. A number of small indistinguishable sherds in similar fabric, but apparently without dark wash.
- b. Many sherds from another, similar except that the clay is red right through.
122. EM II-III (Fig. 8).—Shoulder from suspension pot in red clay. No slip or wash. Small lug singly pierced.
- a. Two other similar lugs.
- b. Lug of similar ware, but shaped like that of 120.
123. EM II-III (no illustration).—Shoulder from suspension pot in red clay. Traces of dark wash outside. Doubly pierced lug with a sharply cut groove between the two holes.

### V. Perforated Round the Rim.

124. EM (Pl. 8, Fig. 8).—Globular bowl with thickened rim below which a series of small holes have been pierced. Coarse clay, red at rim, but black from shoulder down. Base restored.
125. EM (Fig. 9).—Globular pot with a rather elongated neck and a series of holes below the rim. Coarse clay, red above but black right through below the shoulder. Evidently the sides below the neck were doubly thickened, and in most places the outer layer has split off, leaving a rough surface, but on one

side it is seen still adhering. It is possible that this outer layer came down below the base of the pot itself to form some sort of stand. Represented by three sherds, but the base missing.

#### VI. *Fragments in Red Ware.*

126. EM II-MM I (Fig. 9).—Rim of bowl. Micaceous red clay. Mottled in almost the manner of Trapeza ware inside. No slip, polish, or wash. Dr. c. 10 cms.
127. EM II-MM I (Fig. 9).—Rim of bowl. Rather gritty reddish clay, but surface has a thin brown to black polished slip on both sides. Dr. c. 16 cms.
128. EM II-MM I (Fig. 9).—Rim almost exactly similar to 127, but rather heavier and more angular. Same fabric and marks of polishing tool clearly visible inside. Dr. c. 16 cms.
129. EM II-MM I (Fig. 9).—Rim of bowl. Rather gritty red clay. Traces of dark wash inside and out. Dr. c. 16 cms.
130. EM II-MM I (Fig. 9).—Rim of bowl. Red clay with slightly polished slip. Sherd too small to tell diameter.
131. EM II-MM I (Fig. 9).—Rim of bowl. Clay red on both surfaces, but grey at the core. No slip, polish, or wash. Dr. c. 12 cms.
132. EM II-MM I (Fig. 9).—Rim of bowl. Fabric similar to 131, but the vessel larger and heavier. Sherd too small to tell diameter.
133. EM II-MM I (Fig. 9).—Rim of bowl. Light red, well-baked clay. Marks of polishing-tool running horizontally outside, but polish not brilliant. Two horizontal loop-handles slanting upwards. Perhaps had a bridge-spout. Dr. c. 12.5 cms.
134. EM II-MM I (Fig. 9).—Rim of bowl. Red clay slightly polished on both sides. Horizontally pierced lug at either side. Dr. c. 10 cms.
135. EM III-MM I (Fig. 9).—Rim of bowl. Rough buff-red clay. Red wash both sides. Hole pierced diagonally through rim. Dr. c. 12 cms.
136. EM III-MM I (Fig. 9).—Rim of heavy bowl or pithoid jar. Plain red clay. Dr. c. 22 cms.
137. EM III-MM I (Fig. 9).—Rim of slightly carinated bowl. Red clay polished on both sides. Outer surface has patches of black from uneven firing. Dr. c. 10 cms.
138. EM III-MM I (Fig. 9).—Rim and shoulder of carinated bowl. Micaceous red clay. Polished red slip outside. Horizontal loop handle at angle of shoulder, which has caused a thickening in the wall of the vessel where it joins on. Sherd too small to tell diameter.
139. EM III-MM I (Fig. 9).—Rim and shoulder of bowl with rather low carination. Coarse sandy reddish-buff clay, grey at core. Seems to have had a finer slip but surface much worn. Dr. c. 14 cms.
140. EM III-MM I (Fig. 9).—Side of carinated bowl with unusually thick wall. Red clay slipped outside. Traces of where horizontal handle joined on just above carination.
141. EM III-MM I (Fig. 9).—Rim of bowl with moulded vertical ridge. Red clay, polished inside and perhaps out, but surface much worn. Probably from carinated shape. Sherd too small to tell diameter.
142. EM III-MM I (Fig. 9).—Rim of sharply carinated bowl. Rough light red clay slightly polished. Shallow groove just below rim, and distinct one above angle of carination. Dr. c. 14 cms.  
  - a. Fragment with similar groove, of darker clay polished nearly black, seems to belong to a smaller pot of the same type.
143. EM III-MM I (Fig. 9).—Rim of bowl with ledge inside neck for lid to rest on. Red clay lightly burnished. At least two vertical loop handles. Dr. c. 16 cms.

144. EM III-MM I (Fig. 9).—Rim of bowl with small ledge inside neck for lid to rest on. Orange-red clay with polished slip outside. Dr. c. 14 cms.
145. EM III (Fig. 9).—Rim of bowl with very distinct ledge inside neck for lid to rest on. Light red clay, with dark wash outside, and yellowish-white line at angle of neck. Presumably two vertical handles, the remains of one of which were found. Possibly a bridge spout. Dr. c. 15 cms.
146. EM III-MM I (Fig. 9).—Rim of bowl, or pithoid jar, with projecting ridge outside to hold up lid. Orange-red clay with darker slip outside. The ledge is attached more firmly than that of 147, but is not made in one with the wall of the vessel and has broken off in some places. Dr. c. 25 cms.
147. EM III-MM I (Fig. 9).—Rim of bowl, or pithoid jar, with projecting ridge outside to hold up lid. Red rather coarse clay with darker slip outside. The ledge was evidently merely placed on after the bowl was otherwise completed, and has split right off in many places. Dr. c. 27 cms.
148. EM II-MM I (Fig. 8).—Base with slight groove just above the angle. Plain red clay, slipped and slightly polished outside. Probably from bowl, although it resembles the bases of Vasilike ware jugs (604-9) in its grooving.
149. EM II-MM I (Fig. 8).—Base with definite kick. Plain red clay slipped and slightly polished outside. Probably from bowl.
150. EM III-MM I (Fig. 9).—Hollow base. Orange clay with darker polished slip outside. Resembles the rim (144) in fabric. Sherd too small to tell diameter.
151. EM III (Fig. 8).—Base in reddish clay with horizontal yellowish-white line just above angle on dark wash. May be from bowl or jug.

#### VII. *Fragments in Buff Ware.*

152. EM III-MM I (Fig. 9).—Rim of bowl with two small contiguous upright lugs. Buff clay. Dark brownish-red wash both sides. Dr. c. 11 cms.
153. EM III-MM I (Fig. 9).—Rim of bowl with small horizontal lug. Fine buff clay with hard, smooth finish. Marks of polishing tool outside. Dr. c. 10 cms.
154. EM III-MM I (Fig. 9).—Rim of bowl. Rather coarse buff clay with dark wash both sides. Dr. c. 12 cms.
155. EM III-MM I (Fig. 9).—Rim of bowl. Fine buff clay with very hard, smooth finish. Slightly polished inside. Dark wash outside. Dr. c. 9 cms.
156. EM III-MM I (Fig. 9).—Rim and vertical strap handle. Probably from two-handled bowl, but possibly from cup. Fine buff clay. No surface decoration. Dr. c. 12 cms.
157. EM III-MM I (Fig. 9).—Handle of similar shape to 156. Rim missing. Orange clay, slipped and slightly polished outside.
158. EM III-MM I (Fig. 8).—Basket-shaped vessel. Buff clay. Dark semi-lustrous wash outside with more or less vertical yellowish-white lines running down from rim. Inside plain. Round handle, which seems to have gone right across the vessel, with a knob perhaps imitating a metal rivet where it joins the rim. The rim and base do not join, but from size, clay and decoration, seem certainly to belong to one another.
159. EM III-MM I (Fig. 8).—Round lid with central knob. Probably from bowl of "bird's-nest" shape. Buff clay. Traces of dark wash outside.

#### VIII. *Wheel-made Fragments.*

160. MM I (Fig. 8).—Sherds from bowl with incurving rim. Seems wheel-made. Buff clay. Remains of dark wash outside. Rim and base do not join.
161. MM I (Fig. 8).—Half of miniature carinated bowl. Red clay with thick red wash inside and out. Raised knob inside makes it seem wheel-made.

162. MM I (Fig. 8).—Base in fine buff clay, probably from bowl. Wheel-made. Dark glaze inside and out.
163. MM II (Fig. 8).—Ring base which looks like the imitation of a metallic shape. Wheel-made. Fine buff clay, slipped inside. Dark glaze outside which seems to show traces of white linear decoration superimposed. Inside plain.
164. MM II (Fig. 9).—Rim of bowl or cup with double curve. Wheel-made. Fine buff clay, and the wall is almost thin enough to be classed as 'egg-shell' ware. Decoration in crimson and white on a dark ground much worn. Knob of clay on rim.
- a. Sherd in similar fabric with typical MM II curvilinear design in white, but too small to tell exactly the type.
165. MM II (no illustration).—Sherd broken all round. Wheel-made. Buff clay. Shiny red glaze outside.

*Side-Spouted Bowls.* 200.

(Plate 8, Fig. 10.)

There are fragments of some six spouted bowls (201–5) in the grey powdery ware described above (see 109–19). These all appear to have had wider mouths than the true suspension pot, but the rim (202), with its inner ledge and piercing, has only to be compared with 113 for the close relationship between the two types to be seen. The spouts are generally small and tubular, but the opening in the shoulder of 205 from which the spout has been broken off is as large as that in the usual teapot shape, and it is uncertain whether the vessel should not have been restored with a trough-ended spout. This is, in fact, altogether an enigmatic piece, since it is the only known example of a spouted bowl in this type of grey incised fabric (see p. 35), but in the question of dating it cannot be separated from 201–4. Either side-spouts began earlier than is generally supposed, or else the use of this technique and decoration continued later. Both possibilities may even be true. Although the side-spout is uncommon before EM II, there are in the Candia Museum certain grey vessels from Palaikastro<sup>1</sup> and Zakros<sup>2</sup> with tubular spouts, which should precede the Vasilike ware teapots. Moreover, the type of teapot which is commonest in the Messara during EM III–MM I times has a globular body and low collar exactly like those of the suspension pots,<sup>3</sup> and is either handleless, or has two small horizontal handles, or even two knobs, on the shoulder, which must have been less useful for pouring than the East Cretan vertical handle opposite the spout, and which seem to be mere survivals from the primitive suspension lug. 205 did not apparently have two handles at the sides, but it may have had none at all, and if the suspension pot developed

<sup>1</sup> CM 3209. This has two small horizontal handles at the shoulder, one on either side.

<sup>2</sup> CM 2329. The spout is here represented only by an opening in the side, and its shape is uncertain.

<sup>3</sup> Festòs p. 134 Fig. 59. VTM Pl. LI 6887, 6890, 6888.

a spout during EM III, there is no reason why it should not exceptionally have done so earlier. Equally, although incised half-circles and chevrons may be typical of EM I in East Crete,<sup>1</sup> in the South these are so roughly executed that it is tempting to regard them there as a late and degenerate form belonging at least to EM II.<sup>2</sup> According as to whether the clay and decoration or the shape of these side-spouted bowls is given the most importance, they must be put to EM I or II, but the clay, as has been shewn in the case of the suspension pots, etc. (109-19), is of no real value for dating, and the decoration is a certain guide only in the East, so that the later period seems on the whole the more likely.

Bowls with tubular side-spouts also occur in red clay (206) of a type which at Mokhlos has been classed with EM I-II vessels,<sup>3</sup> but which seem likely to belong to the latter period. These differ from the previous examples only in fabric, which is an added reason for not placing 201-5 too early, and, as Seager points out,<sup>4</sup> the shape is one which lasts through the EM III and into the MM I age.

There are no bowls with the exaggerated side spouts common in the Vasilike ware of East Crete, and only one example (207) can with certainty be ascribed to EM III. Enough is preserved of this vessel for complete restoration. The moderate spout, distinct collar, and rather flattened rim, as well as the linear and spiral decoration in yellowish-white paint on a dull black ground, make it an extremely good specimen of the period. It should be compared with bowls from Kamarais and Knossos<sup>5</sup> of the same date.

The bridge-spouted bowl first appears in Crete in Neolithic times,<sup>6</sup> but is not found subsequently until EM III. 208 is a sufficiently typical example of the latter period, although it is more usual for the white decoration to be superimposed on a dark wash rather than painted directly on the surface clay<sup>7</sup> and one vertical handle at the back is at least as common as two placed at the sides.<sup>8</sup> The sherds (209-10) seem to come from similar vessels, and should be contemporary. 211, with its carinated shoulder and many handles, is, on the other hand, a unique piece, and might equally well belong to MM I.

Bowls with lip-spouts are represented by a number of sherds, but only two vases could be restored with any certainty (212 and 213). The former of these should, from the quality of its paint, belong to EM III,<sup>9</sup> but its

<sup>1</sup> *P of M I* p. 60. *Gournia* p. 50.

<sup>2</sup> *VTM* p. 35, 4190, 4191 etc. Pls. I and XXV.

<sup>3</sup> *Mochlos* pp. 81, 82 M 22, 23.

<sup>4</sup> *Mochlos* loc. cit.

<sup>5</sup> *P of M I* p. 110 Figs. 77 and 78.

<sup>6</sup> *Ibid.* II Fig. 3 x.

<sup>7</sup> Cf. *Gournia* p. 50 Pl. XII 29.

<sup>8</sup> *BSA Supp.* I Pl. II g.

<sup>9</sup> The tapering base with which this vessel has been restored perhaps gives it a later appearance than it deserves.

design of crossing diagonal white lines is common at Knossos in MM Ia,<sup>1</sup> and it has an almost exact counterpart from Porti<sup>2</sup> which is ascribed also to MM I. 213 is almost certainly MM I, for the shiny red glaze on buff clay which distinguishes it does not come into use until this period, and continues throughout MM II.

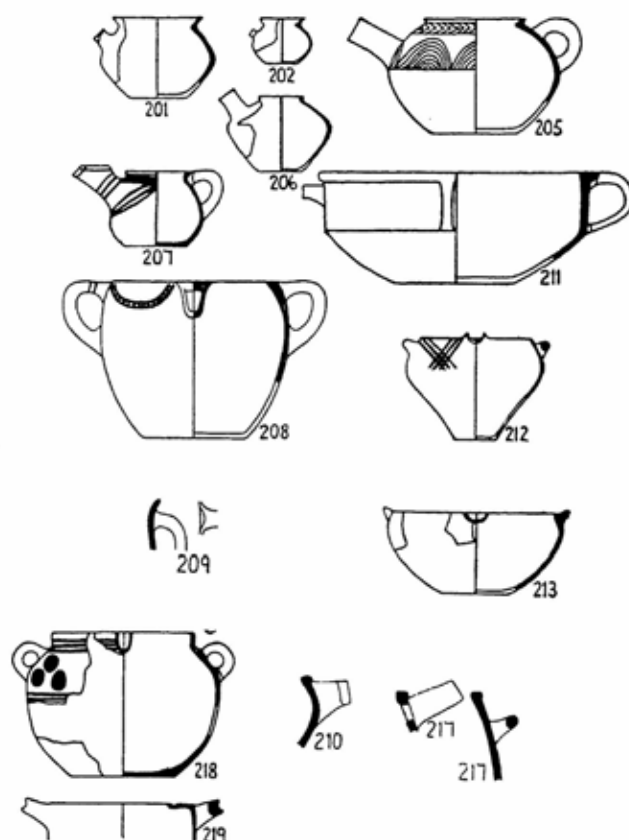


FIG. 10.—SIDE-SPOUTED BOWLS.

Scale, 1:6.

The fragments 214-17 must likewise fall between EM III and MM I, and most probably correspond in date with the MM Ia of Knossos. Bowls with small tubular spouts such as 214-15 have been found in the Messara,<sup>3</sup> and those with teapot, bridge, or lip-spouts such as 216-17 are common on all MM I sites.

<sup>1</sup> *BSA* XXX p. 64.

<sup>2</sup> *VTM* p. 60, 5062 Pl. XXXV.

<sup>3</sup> *VTM* p. 59, 5055 Pl. XXXV.

A rather more advanced stage is shewn by the last two vessels in this class (218 and 219) but these must still be placed within the limits of MM I. The vertical handles at either side of the shoulder on 218 are a curious feature. In East Crete one vertical handle opposite the spout is usual,<sup>1</sup> and in the Centre and South two horizontal handles are equally characteristic.<sup>2</sup> The two types are not absolutely confined to their respective areas,<sup>3</sup> but there seems to be no other example in which they have thus been combined. The square shoulder of 219 is perhaps copied from a metal prototype, and resembles that of a vessel from Knossos<sup>4</sup> which does not appear to have had a spout, but which has been largely restored.

### I. *Fragments in Grey Ware.*

201. EM I-II (Fig. 10).—Sherds from rim, shoulder, and spout of bowl with tubular side-spout. Grey powdery clay, slightly burnished outside. May have had horizontal handles.
202. EM I-II (Fig. 10).—Fragment from rim and shoulder of bowl with tubular side-spout. Grey powdery clay with traces of darker burnish on the outer surface. Small hole pierced through rim. Projection inside neck on which lid could rest.
203. EM I-II (no illustration).—Spout, and another fragment, from shoulder of bowl with side-spout. This was probably tubular, but the end is broken off. Grey clay slightly burnished outside. The shape seems to have been the same as that of 206.
204. EM I-II (no illustration).—Small trough-ended spout in very dark grey clay. Might be from bowl, jug, or askos.
- a. Another similar.
205. EM I-II (Pl. 8, Fig. 10).—Sherds from rim and shoulder of bowl which appears to have had a side-spout. Clay grey throughout. Decoration of chevrons and concentric half-circles lightly incised on the shoulder, the general effect being rather irregular. There seems to be no doubt that this pot possessed a spout, since the opening from which this has been broken can have served no other purpose, but it is impossible to tell whether tubular or trough-ended. The handle is entirely restored.

### II. *Fragments in Red Ware.*

206. EM II (Fig. 10).—Shoulder and spout of bowl. Red clay slightly polished outside. Rim, base, and handle missing.
- a. Three other similar spouts, one of which shows traces of a dark wash.
- b. One very small spout, similar fabric. The spout narrows quickly towards the outer end.

### III. *Teapot.*

207. EM III (Pl. 8, Fig. 10).—Teapot-shaped vessel. Buff clay. Dark wash outside, with yellowish-white loops and spirals painted round the shoulder and lines on the spout. Rim rather flattened on top. Handle restored.

<sup>1</sup> *BSA Supp.* I Pl. IV E, Pl. IX A, B, D, Pl. XI B, D; *Gournia* Pl. A 1.

<sup>2</sup> *BSA XXX* Pls. XII a, 18, XII b, 13, 16; *ibid.* XIX for all the Kamarais Cave examples; *VTM* Pl. XXXV 5062 Pl. XLV 5702.

<sup>3</sup> *BSA Supp.* I Pl. XI c has two handles.

<sup>4</sup> *P of M* IV p. 114 Fig. 80.

- a. Another spout of similar shape, but rather longer in the neck. Buff clay with dark wash and light decoration. The light paint has worn off, leaving darker lines than the surrounding body colour, so that the effect of the colours is reversed.

#### IV. *Bridge-Spouted.*

208. EM III (Pl. 8, Fig. 10).—Bowl with bridge-spout. Gritty grey clay without slip or wash. Festoons in yellowish-white paint on the body consisting of two lines close together and with a row of dots between. Flat top to rim. Handles placed vertically at either side and slightly flattened. Small knob below rim on opposite side to spout. Base missing, and only one side of the spout found, so its size is doubtful.
- a. Fragments from three other bowls seemingly of the same shape and fabric.
209. EM III (Fig. 10).—Fragment of rim. Probably from same shape as 208, which it resembles in fabric. Small curve in rim, immediately above vertical handle, which, but for its position, would be taken for a lip-spout.
210. EM III (Fig. 10).—Fragment from bridge-spouted bowl. Coarse red clay with lighter slip. Dark wash outside, much worn.
211. EM III-MM I (Pl. 8, Fig. 10).—Open, bridge-spouted bowl. Light red clay with red slip and traces of dark wash all over surface both inside and out. Carinated shoulder with a groove round the vessel just above the angle of carination. Offset rim, with a flat top, round which is another similar groove, bridging a small trough-spout. Vertical handle from rim to shoulder opposite spout, and at least two smaller handles unevenly spaced at either side.
- a. Two other small red bridge-spouts.

#### V. *Lip-Spouted.*

212. EM III-MM I (Pl. 8, Fig. 10).—Bowl with lip-spout. Buff clay. Dark semi-lustrous wash all over surface, with sets of three parallel diagonal and crossing lines in yellowish-white paint on the shoulder. Two horizontal loop handles near the rim at either side. Base restored.
- a. Spout from a similar vessel. Buff clay. Dark wash much worn.
- b. Spout from a similar vessel. Buff clay without wash, but with traces of red lines round the spout.
- c. Three small spouts in red clay, one of which has traces of a dark wash, seem to be from this shape.
213. MM I (Fig. 10).—Sherds from lip-spouted bowl. Fine buff clay. Red lustrous glaze outside. Slight groove below rim. Two horizontal lugs at rim vertically pierced with the spout between them. Base missing.
- a. Handles from three more bowls of similar shape. One has a similar red glaze, the other two have a dark semi-lustrous wash.

#### VI. *Fragments in Buff Clay.*

214. MM I (no illustration).—Small tubular spout. Probably from shoulder of bowl. Buff clay with dark wash outside.
215. MM I (no illustration).—Tubular spout. Buff clay. Dark lustrous wash only on inner surface of vessel, so the shape must have been fairly open.
216. MM I (no illustration).—Trough-ended teapot spout. Buff clay. Dark wash on outer surface. Marks of paring.
- a. Two others similar in shape and fabric.
- b. Three others similar in shape, but with dark lines painted directly on the buff clay.



217. MM I (Fig. 10).—Two horizontal handles and a bridge-spout from a rather straight-sided bowl. Fine hard buff clay. Traces of dark wash and marks of paring on spout. It is possible that the spout and rim do not belong to the same vessel, but the clay and size correspond.
- a. Fragment of another rim and handle in exactly the same technique. It might, indeed, belong to the same pot, although the wall is slightly thinner, except that this would then possess three handles, which is unlikely.
- c. Fragment from bowl in similar clay and with similar wash, but with lip-spout.

#### VII. *Wheel-Made Fragments.*

218. MM I (Fig. 10).—Rim, spout, and base of bridge-spouted bowl. Wheel-made. Fine buff clay. Black lustrous wash inside and out. A line of light red paint round the neck, enclosed between two of chalky white. Triple white blobs on the shoulder and again two white lines below. Two vertical handles at either side of spout. Flat base which does not join the shoulder, although seemingly from the same vessel.
219. MM I (Fig. 10).—Rim of square-shouldered bowl. Wheel-made. Fine buff clay with traces of a dark wash both inside and out. Surface much worn. The top of the vessel turns in at right angles to its side, and there is a small groove near the lip of the flat ledge thus formed, possibly meant to hold a cover in place. Two horizontal handles, with a concave, metallic-looking profile, project at the angle of the shoulder, one at either side, but not exactly opposite to one another. For this reason it is to be supposed that there was a bridge-spout between them, for otherwise the effect given would be quite asymmetrical.

#### *Dishes.* 300.

(Plates 8 and 9, Fig. 11.)

Open, more or less straight-sided, dishes are common, although most often represented by fragments. The earliest of these would seem to be 301, the polished, unevenly toned surface of which resembles that of sherds from the Trapeza ware strata  $\Delta$  17. 1·10–1·40 S., 16–18. 1·40–1·70 S. (T. 2 and 3), although from the shape of its handle it must be at least as late as EM I.

302 and 303 are shapes common in the Vasilike ware of EM II, although 303 is the largest of its kind which has yet come to light in a restorable condition.<sup>1</sup> Their fabric is interesting in connection with that of the imitation Vasilike ware jugs (606–12, 615–20), for the surfaces of both vessels varies from brown near the rim to black on the base, and this variation is produced by firing, and not, as in the case of the jugs, by the use of different-coloured paints, but their clay is too coarse and their finish not sufficiently hard for them to be classed with the East Cretan specimens. They show, as do the jugs, that the mottled ware was so much admired that it was

<sup>1</sup> For the former see *Gournia* p. 50 Pl. XII 10; *BSA* VII p. 144 Fig. 52; X p. 200; *Supp.* I p. 6. For the latter *Gournia* p. 50; *Trans. Penn. Univ.* II 2 p. 116; *Sphoungaras* p. 49 Fig. 20; *BSA* X p. 200.

copied by local potters who did not know the secret of its manufacture, and could only try, unsuccessfully, to achieve a similar effect. It is possible that some of the rims 304-10 belong to vessels of the type of 311, but they seem mostly to come from open plates such as 303. Some are burnished (304, 305a, 308, 310) generally more carefully on the inner than on the outer surface, and some are left plain (305, 307, 309), but the clay is in all cases rather coarse and dark,<sup>1</sup> and they give the impression of being for household use. They, as well as the two whole specimens, are best dated to EM II, since, except for the burnishing, they are undecorated, and although vessels of the same shape are found during EM III,<sup>2</sup> these always appear to have light on dark paint.<sup>3</sup> The open plates continue until MM I, but during this period they are nearly always in buff clay with geometric designs in dark paint, and are chiefly found in the Centre and South of Crete.<sup>4</sup> 317 is the only sherd from Trapeza which seems to correspond to this stage of their development.

311, with its vertical handle projecting below the base, although it is of the same fabric as the coarser dishes, belongs to a rather different class, and has no exact counterparts. Some of its base is missing, and it is possible that it had feet like the tripods (313-14), since at present it will not stand upright, and yet is too large to have been intended for a dipper. These tripods are, in fact, of similar fabric and shape, although considerably smaller. They resemble an MM I vessel from Khamaizi,<sup>5</sup> and seem to be the direct forerunners of the MM III tripod lamps which have since been found on the Kastellos, but from their likeness to the cups (515, 516) it seems possible that they may go back to EM III. 315 may equally belong to either period. If a lamp-handle, it is most likely to be MM I, since although lamps with stick handles from Koumasa<sup>6</sup> are called EM, at other sites they have been more frequently found in MM I contexts, and many occurred at Khamaizi,<sup>7</sup> where all the finds were of this date.

The sherds (316-19) are wheel-made, and therefore presumably MM I, although too fragmentary for certain dating. 316, indeed, appears to have been made on a fast wheel, and in spite of the early appearance which is given by its unevenly coloured surface, may belong to an even later period. It was one of the few pots found in the side chamber E. 319

<sup>1</sup> This clay seems to be local, see p. 29 n. 2.

<sup>2</sup> *Gournia* p. 56 Pl. A 4; *BSA Supp.* I Pl. II d; *AJA* 1909 p. 284 Figs. 8 and 13.

<sup>3</sup> The plate is one of the first shapes to shew this technique, for one of the Sphoungaras examples has wavy white lines on a mottled surface and must belong to the very end of EM II.

<sup>4</sup> *P of M I* p. 173 Fig. 122, 11 and 13. *BSA XXX* p. 65, Pl. XII b 20. *VTM* p. 38, 4127, 4128, Pl. XXVII.

<sup>5</sup> 'Εφ. 'Αρχ. 1906 p. 148 Pl. 9, 14.

<sup>6</sup> *VTM* p. 52, 5015, 5020 Pl. XXXVI.

<sup>7</sup> 'Εφ. 'Αρχ. 1906 p. 149 Pl. X.

is unusual: but for its horizontal side handles it would seem better classed as a lid.<sup>1</sup>

320 is one of the few pieces which was found entirely unbroken. This, too, must be dated to MM I, for the wheel-marks on its inner surface

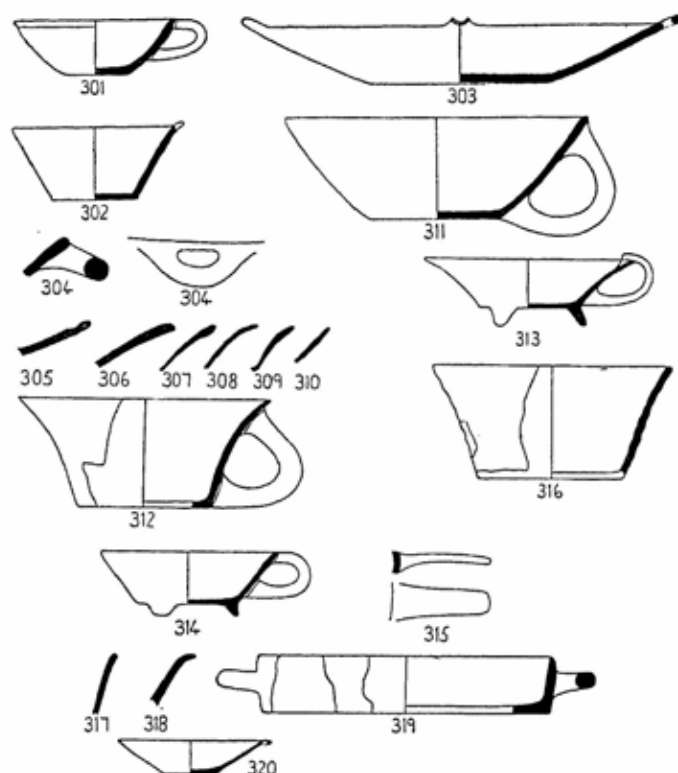


FIG. 11.—DISHES.

Scale, 1 : 6.

are distinctly visible, although the wash which covers it is sufficiently mottled to make it reminiscent of Vasilike ware.

#### I. *Rounded Sides.*

301. EM I-II (Pl. 9, Fig. 11).—Small dish. Clay reddish and rather coarse. Surface polished, varying in colour from black to purplish-red. Flattened base and rounded sides. A small vertical handle at one side. Immediately below the rim there is a shallow groove running all round the vessel.

<sup>1</sup> Cf. lids from the Kamarais Cave. *BSA* XIX p. 27 Fig. 6.

II. *Straight Outplayed Sides.*

302. EM II (Pl. 9, Fig. 11).—Small deep dish, with straight, outplayed sides. Clay rather coarse, but the surface smooth and slightly polished, with the marks of the polishing tool clearly visible, running horizontally both inside and out. The colour is reddish-brown at the rim and nearly black at the base. There is an open trough-spout at one side and a lug opposite.
303. EM II (Pl. 8, Fig. 11).—Large plate. Fabric exactly the same as in 302, but the marks of the polisher less noticeable. Small trough-spout at the rim, opposite to which there must have been two knobs, one of which is missing owing to the fact that part of the side was broken off in antiquity. Two horizontal handles at either side projecting in line with the rim.
- a. Fragment of rim with knob from exactly similar type of plate.
  - b. Two similar bases, but rather finer and smaller.
  - c. Sherds from at least two others. Shape and clay similar, but surface not so well polished.
304. EM II (Fig. 11).—Two handles projecting downwards from a plate of the same shape as 303, but larger and coarser. Slight burnish on inner surface only.
305. EM II (Fig. 11).—Rim coming to spout from plate similar to 303, but without any burnish. Wide groove inside rim.
- a. Another rim with similar groove, but in rather finer ware and burnished inside.
306. EM II (Fig. 11).—Rim of rather more flaring type than the above. Clay reddish with a darker slip. Very distinct tool-marks outside.
- a. Several more rims of similar shape, but in coarser, darker clay. One shews marks of wiping like Trapeza ware.
307. EM II (Fig. 11).—Thickened rim of flaring type similar to 306. No slip or burnish. Outer surface very rough.
- a. Another similar but in thicker ware.
308. EM II (Fig. 11).—Rim of flaring type similar to 306, but in finer clay and thinner fabric. Carefully polished on both sides. Rim seems to have had a knob or lug.
309. EM II (Fig. 11).—Rim of similar type to 306, but from a shallower vessel as it comes down to the base. Coarse plain clay.
310. EM II (Fig. 11).—Slightly upcurved rim from dish. Red clay, blackened on outer surface and slightly polished.
- a. Another of similar shape, but in darker clay, and unpolished.
  - b. A sherd from a similar dish is pulled out as though to form a wide lip-spout.

III. *Handle Projecting below the Line of the Base.*

311. EM II-III (Pl. 9, Fig. 11).—Dish with handle projecting below the line of the base. Coarse reddish-brown clay without slip or polish. A large part of the sides and base restored.
312. EM II-III (Fig. 11).—Sherds from dish with rather flaring rim, and marks of where a vertical handle joined, which perhaps projected downward like that of 311. Clay and fabric similar to 311.
- a. Another sherd from a similar or possibly from the same vessel.

IV. *Tripods.*

313. EM III-MM I (Pl. 9, Fig. 11).—Tripod dish. Coarse clay without slip or polish. Red on the break, but varying on the surface from red to black in almost the same way as Trapeza ware. Flat base with three small feet projecting downwards in line with the sides. Loop handle from base to rim, ending inside the dish in a lump on which the thumb of the bearer can rest.

314. EM III-MM I (Pl. 9, Fig. 11).—Tripod dish. Rather smaller than 313, but exactly the same in shape and fabric, except that the surface is less mottled. The handle has been restored.  
*a.* Legs from at least three others of similar shape.
- 315 EM. III-MM I (Fig. 11).—Lamp handle or long tripod leg.  
*a.* Another similar, but length only 6.5 cms.

#### V. Wheel-made.

316. MM I (Fig. 11).—Side of dish in purplish-red clay which on the surface presents almost the same mottled appearance as Trapeza ware. Wheel-made. No slip or surface finish. The base is missing.
317. MM I (Fig. 11).—Rim from dish of buff clay. Wheel-made. Surface much worn, but seems to shew traces of dark wash outside.
318. MM I (Fig. 11).—Rim of dish in hard buff clay. Wheel-made. Redder slip on both sides. Inside rather mottled like Vasilike ware.
319. MM I (Fig. 11).—Sherds from flat dish with straight, low sides. Wheel-made. Coarse, plain buff clay. Horizontal loop handles half way up the side.
320. MM I (Pl. 9, Fig. 11).—Open saucer. Wheel-made. Fairly fine reddish-yellow clay. The interior seems to have been entirely covered with a dark wash of uneven tone which has run over the rim irregularly outside and in one place extends down to the flat base. One small horizontal handle at the rim.

#### Covers. 400.

(Plate 9, Fig. 12.)

Fragments were found from some fifteen covers, ten of which could be restored (401–10), of a type which has already occurred at many other sites.<sup>1</sup> They are circular in shape and have an outplayed (401–7) or vertical (408, 409) rim below a flat top, which often projects like the eaves of a roof at the angle where the two join (401–6). At the centre there is a hollow cylindrical handle. The clay is coarse and dark, either grey or reddish-brown, with the surface burnished to grey or black. The usual decoration consists of a number of wide grooves round the upper part (401, 403–5), and sometimes there are small knobs on the ledge which overhangs the rim (402–4). Where there is no such ledge the angle between the top and the rim may bear a moulded rope pattern of the simplest sort (406–7), or else have merely a narrow groove above and below (408–9). 410 is unique in that its rim joins its top at a very obtuse angle without a projecting ledge, and that the whole of its outer surface is ornamented with roughly scored concentric rings. Also it has two loop handles at either side, as well as the usual cylindrical one in the centre. On the whole, the Trapeza covers resemble those from East Crete rather than those from the Messara, since the latter, with the exception of a rough, un-

<sup>1</sup> *P of MI* p. 75. *VTM* p. 10. *Mochlos* p. 20. *Gournia* pp. 50, 56. *BSA XIX* p. 41. *Arch. Δελτ.* 1918 p. 152. *Annuario XIII–XIV* p. 14.

decorated specimen from Agia Triadha,<sup>1</sup> have the ridges, rather than the grooves between, emphasised round the top, and also are comparatively small, but the only parallel to 410 is from Pyrgos,<sup>2</sup> and 406-9 in detail seem to be unique. It has sometimes been thought that these covers are dishes standing on a conical foot,<sup>3</sup> since they bear some resemblance to Early Dynastic Egyptian tables of offering, and since no pots to which they could have belonged have previously been recovered. It seems clear, however, that this is not the case. The stand of the 'kernos' from Koumasa,<sup>4</sup>

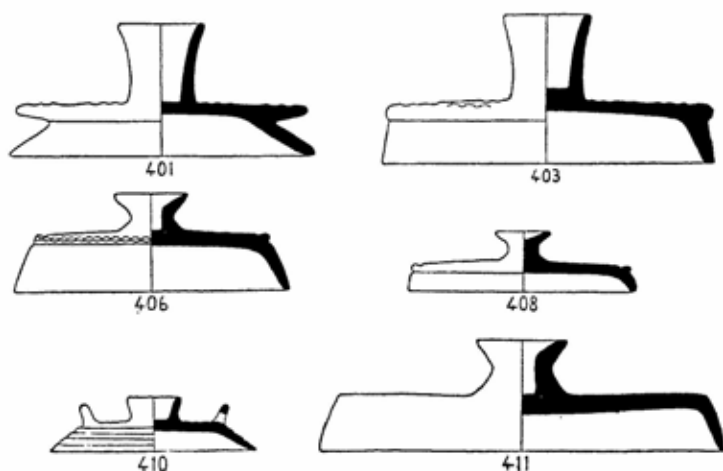


FIG. 12.—COVERS.

Scale, 1:6.

which Evans regards as the intermediate form between them and the tables of offering, may approximate to the latter, but it has no rim and is not burnished or decorated on its convex side, whereas the covers all possess rims and are invariably better finished on the outer surface than they are within. As dishes they would stand unevenly, and the loop handles of 410 would, if placed below the base, be inexplicable. Furthermore, at Trapeza three bowls (101-3) were found in exactly the same heavy, badly-baked but well-burnished ware, and, although none of the covers which could be restored seem quite to fit these, it is likely that the two types should be connected, since their fabrics are so similar that at first sherds from the one were taken to belong to the other. It is, of course, equally possible that the covers may have been used with vessels of some perishable material. In spite of their poor baking and seemingly Neolithic burnish, these covers do not appear to be earlier than EM II, since none occurred

<sup>1</sup> *Annuario loc. cit.* Fig. 11.<sup>3</sup> *P of M I* p. 75. *Mochlos* p. 20.<sup>2</sup> *Αρχ. Δελτ.* 1918, Fig. 12, 87.<sup>4</sup> *VTM* p. 34, 4194.

in the earliest rock-shelter burials, such as those of Agios Nikoloas,<sup>1</sup> from which EM I pottery can best be distinguished. They probably persisted into EM III, for the examples 406-9 seem later than the rest, while 410 is even further removed from the best-known type.<sup>2</sup>

The peculiar fabric of these covers made them so easy to distinguish that for the sake of reference the stratum from which every sherd belonging to one of them came was written on it before any were joined together. The results obtained were interesting, as proving the complete absence of stratification in the cave. No single one came from fewer than four strata, and although most of the fragments were found between the 16th and 19th metres, the depth at which they occurred varied between 0-0.30 and 1.10-1.40. Perhaps the most surprising example was 405, of which the provenance was as follows:  $\Delta$  5. 0.20-0.40.  $\Delta$  15. 0.40-0.70.  $\Delta$  16. Hole 0.30-0.60.  $\Delta$  17. N. 1.10-1.40.  $\Delta$  20-22. 0-0.30.

Besides the dark covers, sherds occurred from at least three larger, undecorated specimens (411, 411 *a* and *b*) of the same shape. Only one, however, and that represented by a single sherd, has a ledge at the angle between top and rim. These seem to have no exact counterparts from other sites, but it is reasonable to suppose that chronologically they follow immediately after the latest of the burnished examples, and thus belong to the transitional EM III-MM I period. An MM I pithos cover from Vrokastro<sup>3</sup> has a similar handle instead of the more usual loop variety (cf. 930), although, like all real pithos covers, it is flat, and therefore fitted into, and not over, the neck of the vessel to which it belonged. 411 may perhaps have been used with a large bowl with an outer ledge such as 146, 147, since none of the pithos rims recovered have any sort of plain collar on which it could have rested. It seems to shew that in Lasithi the ancient type survived longer than in more central districts and stylistically to complete the sequence down to MM I times.

#### *Appendix. Figure 12a.*

These covers bear a striking resemblance to certain Moorish vessels of the eleventh to thirteenth centuries A.D. from the castle Arcos de la Frontera in Spain. These are precisely similar in shape, although they are of glazed pottery. As with the Minoan specimens, at first only the covers were found, and were thought to be dishes: then the bowl to which one belonged came to light. Mr. L. H. Riddell, who has most kindly drawn attention to this parallel, suggests that the Moorish vessels were used for

<sup>1</sup> *BSA* IX p. 340.

<sup>2</sup> Signorina Banti has already suggested that the Agia Triadha example may be of this date.

<sup>3</sup> *Vrokastro* p. 115 Fig. 57 *c*.

hot food, and that the cup formed by the cylindrical handle contained salt or spice. If this is also true of the Cretan examples, it perhaps throws a new light on the culinary art of EM times, but modern Cretan casserole lids of metal have identically shaped handles, no doubt because these are lighter than if they were solid right through, and this would be an even greater advantage in heavy pottery.



FIG. 12a.—MOORISH COVER.

Scale, 1 : 8.

Another lid of dark-grey burnished pottery, with an exactly similar type of handle, is alleged to come from an Etruscan Tomb near Volterra: it belongs to a high pedestalled dish.<sup>1</sup>

#### I. *Clay Grey or Reddish.*

401. EM II (Pl. 9, Fig. 12).—Cover. Clay grey right through and rather coarse. Surface burnished on both sides, but better finished outwardly. One groove near the turn and another near the handle. Ledge of upper part projects well beyond the junction with the lower rim.
402. EM II (Pl. 9).—Cover. Clay and shape as in 401. No grooves, but three small knobs on the projecting ledge formed by the upper part at either side. Dr. 21 cms.
- a. Sherds from another similar, but with a darker, harder burnish.
403. EM II (Pl. 9, Fig. 12).—Cover. Clay reddish. Surface burnished as in 401, but to a browner colour, owing to the different tone of the clay. Three grooves near the turn and three near the handle. Ledge of upper part only projects slightly, but has three small knobs on it at either side.
404. EM II (Pl. 9).—Cover. Clay and shape as in 403. One groove near the turn and one near the handle. Three small knobs at the edge of the projecting ledge on either side. Dr. 19.3 cms.
- a. Sherds from another similar, but five grooves between the turn and the handle.
405. EM II (Pl. 9).—Cover. Clay and shape as in 403. Two grooves near the turn and three near the handle. Dr. 25.8 cms.
- a. Sherds from another similar, but in rather finer ware.
406. EM II-III (Pl. 9, Fig. 12).—Cover. Red clay and surface. Burnished to a dark colour in some places, but nowhere as black as is usual. No grooves and no projecting ledge, but at the angle between top and rim there is a series of indentations resembling a rope, with a narrow groove above and below.

<sup>1</sup> In the collection of Dr. A. B. Cook, Queens' College, Cambridge.



407. EM II-III (Pl. 9).—Cover. Clay reddish. Rather a worn black burnish on the surface. Rope moulding as in 406. Dr. 26.5 cms.
408. EM II-III (Pl. 9, Fig. 12).—Cover. Clay reddish. Good black burnish, better on outer surface than on inner. No rope moulding, but a narrow groove above and below the angle between top and rim. Rim very low and set almost at right angles to the top.
409. EM II-III (Pl. 9).—Cover. Gritty grey clay. Burnish poor. Shape and finish as in 408. Dr. 17.0 cms.
410. EM III (Pl. 9, Fig. 12).—Cover. Clay reddish. Surface not burnished, but burnt black in patches. Both top and rim are scored with concentric rings outside. The rim makes an obtuse angle with the top. Two loop handles are set on at this angle on either side of the central handle.
- a. Fragments, including central handle, from another exactly similar.

## II. *Clay Red.*

411. EM III-MM I (Pl. 9, Fig. 12).—Cover. Red clay. No burnish or decoration of any kind. Shape as in 408, but much larger.
- a. Sherds including the central handle from another similar.
- b. Sherds from another in similar ware, but with the top projecting slightly to a ledge as in 403.

## *Cups.* 500.

(Plate 10, Figs. 13-15.)

The commonest type of vessel found in the cave was the round-bodied cup (501-12) of which some sixty or more specimens were represented. Fragments from them occurred in nearly all strata, but most of the complete or restored examples are from  $\Delta$  5. 0.20-0.40. 510 was bought in Tzeriadha. The clay varies considerably in fineness and colour, but is most often coarse and dark.<sup>1</sup> The surface is generally unslipped, but often slightly polished with some blunt instrument, the marks of which are still visible, and occasionally, particularly on the vessels with strap handles (Fig. 15 *h-j*), it bears a dark reddish-brown wash. In one case (501*a*) there seem to be faint traces of lines in white paint hanging from the rim, and it is just possible that this is an example of the EM I light on dark technique of which there has already been question,<sup>2</sup> since the sherd on which it occurs is of very dark clay, roughly made, and primitive looking. The bases are flattened, or slightly concave from below (501, 503, 504, 507). The sides are upright at the rim, but rounded below, so that they never make a sharp angle with the base. The handles are large, generally round in section, and reaching from the rim to near the base (501-6), or joining slightly below the rim (507-8), or extending only half-way down the side (509-12). Sometimes the last type has a flattened strap handle, but the proportion of these is small. (Variations in handles are shewn in Fig. 15.)

<sup>1</sup> This clay seems to be local, see p. 29 n. 2.

<sup>2</sup> See *Trapeza Ware* section for references p. 28 n. 1.

These cups, like the dishes (302-10), have the appearance of being made for household use, but from their numbers it would seem as though they had been offered in the cave for some ritual purpose, and this is further proved by the fact that at least three specimens (511a) have been 'killed' by a small hole being bored through their sides,<sup>1</sup> as though to serve the dead.

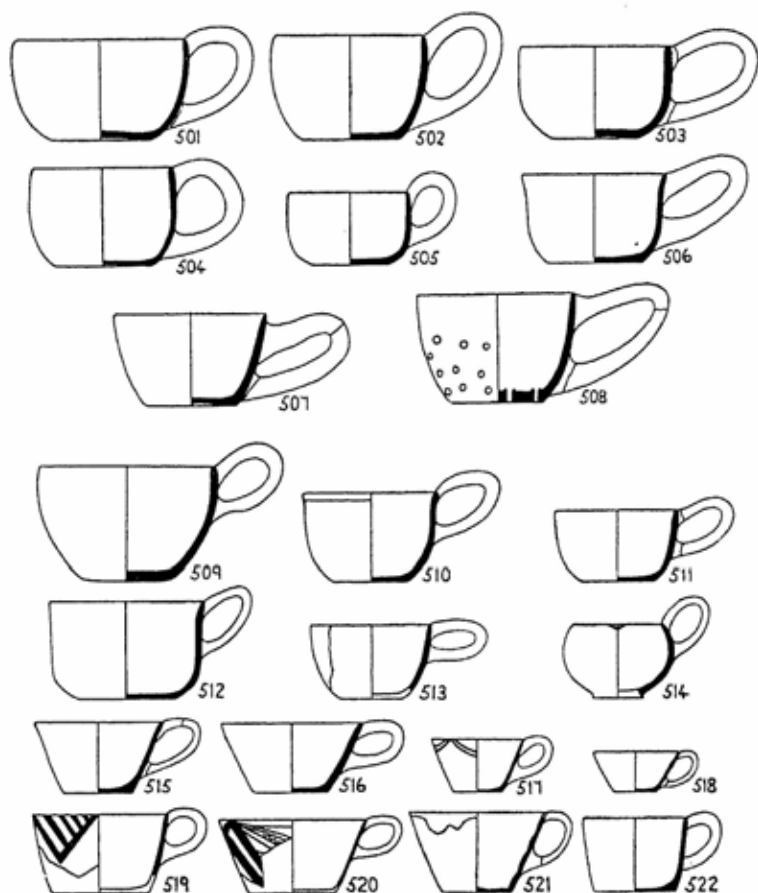


FIG. 13.—CUPS.

Scale, 1: 6.

In date they should belong to the EM II period. A round-bodied cup with a large handle precisely similar to those from Trapeza was found at Knossos in one of the EM II houses on the south slope,<sup>2</sup> and the same shape occurred at Vasilike, also in an EM II context,<sup>3</sup> as well as in the early rock-burials

<sup>1</sup> Cf. the jug (644).

<sup>2</sup> *P of M I* p. 73 Fig. 40.

<sup>3</sup> *Trans. Penn. Univ.* I p. 216 Fig. 6. *Gournia* p. 50 Pl. XII 17 and 18.

at Gournia.<sup>1</sup> Two dipper cups from Pyrgos<sup>2</sup> which have round bases should also be compared, although they are not of much help for exact dating. The strainer (508) has no counterparts from other parts of Crete, but a few sherds were subsequently found on the Kastellos in a mixed EM-MM stratum, seemingly from similar vessels. It is probable that the round-bodied cups continued throughout EM III, although the open, straight-sided shape was by then more common, particularly in the finer wares,<sup>3</sup> for some of the Trapeza examples, such as 512, seem too well made to be as early as their rougher companions, and the form is found again in MM I (539-41). In this case the size and shape of the handles may be a guide for their chronology, for in general the coarser the cup the larger and rounder its handle.

The handle (513) seems to belong to exactly the same shape as 510-12, although it is of different ware. It should be compared with EM II cups in buff ware from Mokhlos and Koumasa,<sup>4</sup> although the fact that it is covered with a dark wash all over, and not decorated with a geometric design, brings it into relation with EM III fabrics. Equally 514, although resembling two cups from Mokhlos which Seager classes as EM II,<sup>5</sup> seems, from its paint, which deliberately imitates the mottling of Vasilike ware in the same way as that of some of the jugs (606-12, 615-20), to belong to the very end of this period.

The next group (515-20) can be dated with more certainty to EM III, since several specimens (515, 517, 519, 520) have the linear decoration in yellowish-white paint which is characteristic of that time, and one of them (519) bears a design which for commonness rivals the modern clover leaf, although the discs round its handle are an unusual addition.<sup>6</sup> The clay, except in the case of 520, which is in fine buff ware, is identical with that of the round-bodied cups above, and shows much the same variations of quality and colour, but the outer surface is unpolished, and the inner merely smoothed round. The straight, outplayed sides make a comparatively sharp angle with the base. Cups of this type have been found on all EM III sites in East Crete, and in particular in the North trench at Gournia, which yielded little or nothing belonging to any other period,<sup>7</sup> but they are rare in the Centre and South of the island, where the light on dark geometric ware of EM III has a very brief existence. At Trapeza they occurred in a proportion of less than one to five to the round-bodied type. They

<sup>1</sup> *Gournia* p. 56 Fig. 37, 4.

<sup>2</sup> *Αρχ. Δελτ.* 1918 p. 149 Fig. 7, 28.

<sup>3</sup> *Trans. Penn. Univ.* I p. 195. *Annuario* XIII-XIV p. 16, 19-21.

<sup>4</sup> *Mochlos* p. 52 Figs. 22-23, VI 6. *VTM* p. 38 Pl. XXVII 4134, 4248.

<sup>5</sup> *Mochlos* p. 82 Fig. 48, M 25-26.

<sup>6</sup> Cf. Hall, *Decorative Art of Crete in the Bronze Age* p. 7, Fig. 6 a. *Mochlos* p. 84 Fig. 49, M. 61-63. *BSA* XI p. 271 Fig. 5 b.

<sup>7</sup> *Gournia* p. 57.

evidently continued in use there practically without modification throughout the EM III period: 521 and 522 are wheel-made, and therefore parallel in date with MM Ia at Knossos, when the use of the wheel had begun, but this is only further proof that Knossos entered the MM I period before other parts of Crete. 521 has an exact counterpart, both in form and decoration, from the town site at Gournia,<sup>1</sup> which should be contemporary. Soon after the introduction of the wheel they seem to have given way to the finer wares described below.

The pedestalled cup (included here rather than with the goblets, since in previous publications it has always been termed a cup) which is so characteristic of MM Ia at Knossos<sup>2</sup> is represented by two sherds only (523, 523a), but it must be remembered that this shape was probably derived from EM I chalices and EM II egg-cups, and that few of either occur at Trapeza (see 801-10).

There are many fragments from tall, tumbler-shaped cups, but few entire specimens could be restored (524-9). These are wheel-made, generally in fine, well-baked clay of a light buff colour, but occasionally in red ware (524, 528) and sometimes with a grey core (529), probably due to a fault in the firing. The walls of these cups are thin, but never of the eggshell quality attained at Knossos. The usual finish consists of a dark, semi-lustrous wash on the outer surface, either tending to black (525, 526) or to a warm reddish-brown (527), and often with an added decoration in white (525, 529) or white and red (526). The alternating white and red panels on the latter example are particularly characteristic of East Cretan MM I wares; its horizontal S design is paralleled on the rim of a tumbler from Palaikastro,<sup>3</sup> and on the neck of a jug from Gournais<sup>4</sup> which is itself of East Cretan shape. These tumblers belong, in fact, to a class which has been found on all MM I sites in East or Central Crete,<sup>5</sup> although it is more rare in the South.<sup>6</sup> At Knossos the shape occurs in both MM Ia and Ib and continues into MM II.<sup>7</sup> The variety with a handle is more rare than that without, and 528-9 find their nearest counterpart in a vessel from Sphoungaras.<sup>8</sup> 524, with its cross-hatched incision, is unique, but the resemblance of this decoration on the one hand to that on the necks of 'Khamaizi' pots (645-9) and on the other to that of a base with white-painted cross-hatching (533d), as well as its general shape, date it, too, to MM I.

<sup>1</sup> *Gournia* p. 38 Pl. VI 4.

<sup>2</sup> *P of M I* p. 104 n. 1. *BSA XXX* p. 62 Pl. XII a 15, 22.

<sup>3</sup> *BSA Supp. I* Pl. X k.

<sup>4</sup> *P of M I* p. 185 Fig. 133 g.

<sup>5</sup> *Trans. Penn. Univ.* 1906 p. 124. *BSA IX* p. 303 Fig. 1, 4. *P of M I* p. 168 Fig. 119 a; *IV* pp. 98-9.

<sup>6</sup> *VTM* p. 62, 5108 Pl. XXXVI b.

<sup>7</sup> *P of M IV* p. 99.

<sup>8</sup> *Sphoungaras* p. 57 Fig. 28 g.

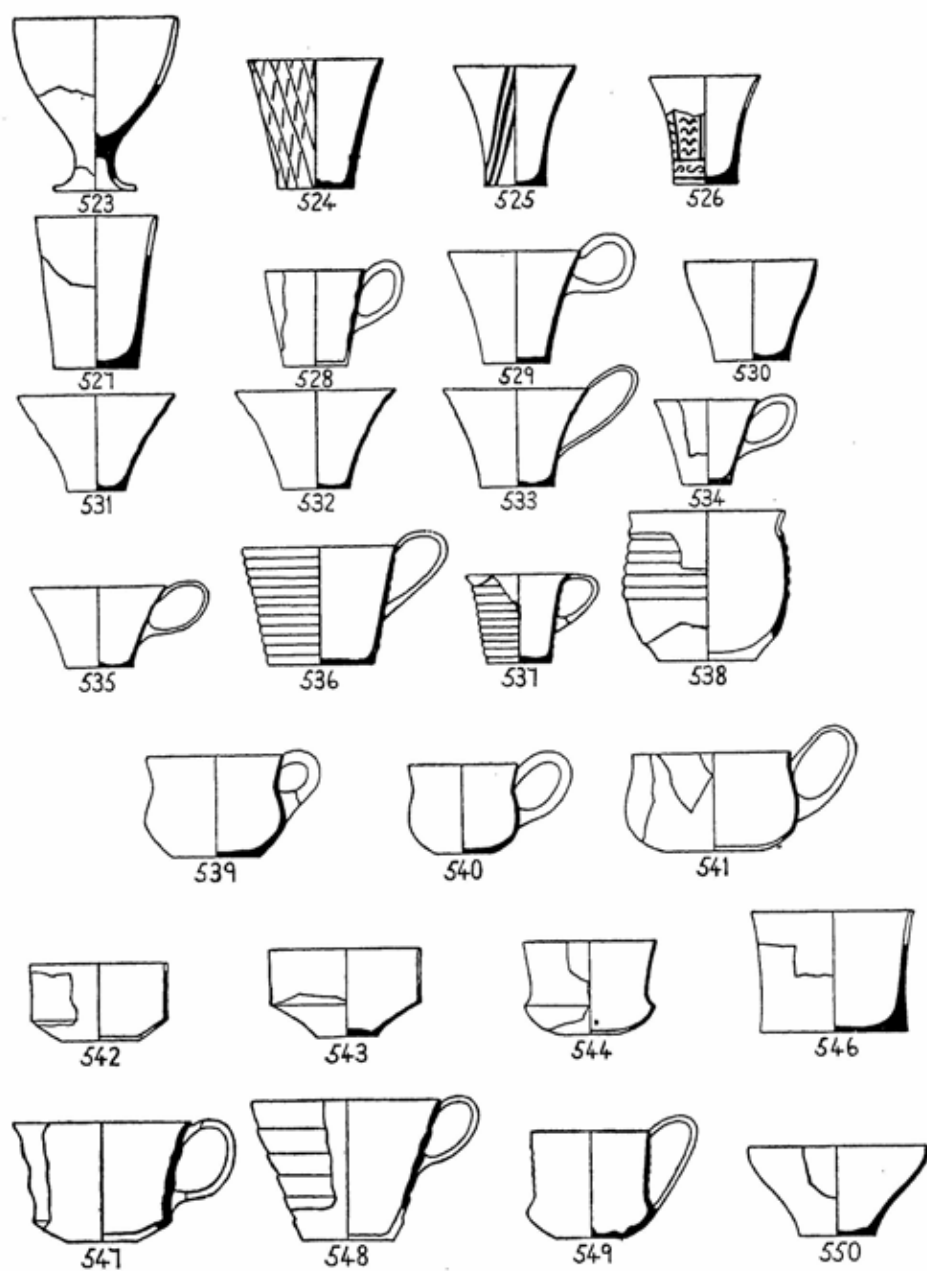


FIG. 14.—CUPS.  
Scale, 1:4.

The open shape (531-5) is represented by even more sherds than the tumbler, although the two are so much alike that it is possible that some of the fragments grouped under 533 really belong to the previous class: 530 appears to be transitional between the two. The ware is the same in both cases, but in the present type there is a greater tendency for the surface wash to extend over the interior as well as the exterior. Handles, either round or ribbon-shaped, are also frequent (533-5). These are generally attached at the top just outside the rim, and form a wide loop reaching more than half-way down the side. Similar cups have been found in large quantities on other sites,<sup>1</sup> but most often in the handleless form. Both at Vasilike and at Palaikastro<sup>2</sup> there seems to have been some evidence for dating them rather later than the tumblers. At the former site they were rare in the lower level of house A, where tumblers and polychrome sherds were common, and frequent only in the upper one, from which polychromy had almost disappeared. At the latter they were never decorated with white or red paint, while the earlier specimens, with straight striations on the base, in shape merged imperceptibly into those with concentric striations belonging to a later period. At Trapeza the decorated examples should be contemporary with the latest phase of MM Ia at Knossos, since two of the designs (533 *k* and *l*) are paralleled from the Kouloura Houses,<sup>3</sup> but it is possible that those with only a dark wash are slightly later. They are all made on the slow wheel, and show straight marks on their bases,<sup>4</sup> so that they must at least fall within the limits of MM I, and except at Knossos it is almost impossible to subdivide the pottery of this period.

The next three cups (536-8) are similar to the last two groups in fabric, but their outer ribbing seems to be a feature characteristic of Lasithi.<sup>5</sup> Several more examples with this effective form of decoration have since been found on the Kastellos, in the house F 1, where it might be uncertain whether they belonged to MM I or III, but the polychrome design inside 537 is too typical of MM I to admit of any doubt as to their date. The most complete specimens are straight-sided, but there are also some small ribbed sherds (536*f*) which are carinated below the ribbing. The shape of 538 is quite uncertain, since only one fragment from the side remains, and this does not seem to correspond to any well-known MM I class.

539-41, with a rounded body and rather outplayed rim, resemble

<sup>1</sup> BSA XXX p. 62; IX p. 303. *Trans. Penn. Univ.* 1906 p. 124.

<sup>2</sup> *Loc. cit.* p. 124. BSA IX p. 303.

<sup>3</sup> BSA XXX p. 60 Fig. 5, 5 (although this is in dark on light) and Pl. XIV 7.

<sup>4</sup> Cf. BSA XXX p. 69.

<sup>5</sup> Cf. however three sherds from Phaistos (*Festòs* p. 384 Fig. 231) which appear to be ribbed, and there is one similar sherd from Knossos in the Ashmolean Museum.

cups from Knossos, Palaikastro and Pseira,<sup>1</sup> but the double curve of their sides is rather more pronounced. They, too, must be MM I in date, although at the last-named site the type already occurred in an EM III context. 540-1 are still in the fine buff, dark-washed ware, and it is interesting to find that coarse cups such as 539 were made in exactly the same shapes as their more refined contemporaries, although presumably thought less worthy of being brought to the cave.

The sharply carinated cups (542-4) are all three in fine ware. No handles which could be related to this shape were found, but on other sites it generally possesses a ribbon handle, and it is probable that the present examples should be restored with this addition. Their prototypes occurred at Knossos in the Kouloura Houses,<sup>2</sup> but they do not seem to have been common before MM Ib,<sup>3</sup> and they continue into MM II. Unlike the preceding groups, they were more popular in the Centre and South of Crete than in the East. They are represented at Palaikastro,<sup>4</sup> but at Knossos there are large numbers of sherds from them in all boxes of MM Ib-II date in the Stratigraphical Museum, and at Phaistos they seem to be equally frequent,<sup>5</sup> while there are also examples from Porti and Vorou.<sup>6</sup>

The wavy-rimmed sherd (545) in red clay with decoration in chalky-white paint has a parallel, but with polychrome decoration, from Vasilike, which Evans attributes to MM Ia,<sup>7</sup> and must also be compared with two fluted, metallic-shaped tankards from Gournia.<sup>8</sup> It is unusual to find the decoration applied directly to the surface clay on such a developed shape, but wavy rims in plain red ware, of almost eggshell fineness, occurred at Knossos in the MM Ia deposit on the Kephala dug in 1935.<sup>9</sup> The distinction between MM Ia and Ib cannot, as has been said, be made throughout Crete, and it seems best to date this type to the period in general.

The straight, upright-sided cup, which is the commonest form at Knossos during MM Ib,<sup>10</sup> although already known in MM Ia,<sup>11</sup> is represented by one base only (546). The shape continues into MM II, and the extremely vertical sides of the present example are perhaps an indication of its lateness, although it was made on the slow wheel.<sup>12</sup> Moreover, if, as seems probable, it had a handle, this must have been small, and placed near the rim, which is another characteristic of the later period.

The remaining cups (547-50) seem all to have been made on the fast

<sup>1</sup> BSA XXX Pl. XII a 6, Pl. XII b 1. IX p. 303 Fig. 1, 1 a. Pseira p. 17 Figs. 1 and 2.

<sup>2</sup> BSA XXX p. 63 Pl. XII b 9. <sup>3</sup> P of M IV p. 106 Pl. XXVIII c.

<sup>4</sup> BSA IX p. 304 Fig. 1, 7 (apparently made on the fast wheel and therefore MM II).

<sup>5</sup> Festos p. 256 Fig. 138, p. 262 Fig. 146, p. 385 Fig. 232.

<sup>6</sup> VTM p. 61 Pl. XXXVI 5120. 'Αρχ. Δελτ. 1930 p. 156 Fig. 18.

<sup>7</sup> P of M I p. 185 Fig. 134.

<sup>8</sup> Gournia p. 60 Pl. C 1 (the silver original) 2 and 3 (the ceramic copies).

<sup>9</sup> JHS LV p. 168. <sup>10</sup> P of M I Fig. 136, 9.

<sup>11</sup> BSA XXX p. 63. <sup>12</sup> Cf. P of M I p. 244.



wheel, and cannot therefore be earlier than the end of MM I. 548, with its rather small handle, is likely (like 546) to be contemporary with the MM II of Knossos, although in Lasithi, as in other outlying districts, MM I appears to have merged into MM III without any intervening period.<sup>1</sup> It should also be compared with a cup from Gournia which is similarly ridged.<sup>2</sup> 549 is more problematical. Its shape relates it to the carinated cups (542-4) and its ribbing, although less marked, resembles that on the carinated sherds (536f), yet its glaze has a metallic quality unusual during MM I, and the knob inside its base seems to shew that it was made on the fast wheel. It may be compared with an MM I cup from Mallia,<sup>3</sup> but it is probably later than this in date. 550 should belong to MM IIIb, or even to LM I, since flat open cups of this type are seldom found earlier.<sup>4</sup> It is consequently one of the latest Minoan finds from Trapeza.

I. *Round-bodied, Coarse Ware.*

501. EM II (Pl. 10, Fig. 13).—Cup of coarse clay, reddish outside with a few dark patches, but more blackened within. Slightly burnished surface, with the marks of the polishing-tool visible, running horizontally round the body. Rather concave base. Rounded sides. The handle has been restored, but many rounded handles, joining at the rim and near the base, occur from less complete cups of this type.
- a. One handle similar to the above, in very dark, coarse clay, slightly burnished, has faint traces of white paint in vertical lines hanging from the rim.
502. EM II (Pl. 10, Fig. 13).—Cup of coarse reddish clay. The surface smoothed, but harsh to the touch and unburnished. Flat base, rounded sides and rather high-swung, rounded handle joining at the rim and near the base.
503. EM II (Pl. 10, Fig. 13).—Cup of coarse reddish-brown clay. Inner surface darker than outer, which is smoothed but harsh like that of 502. Shape as 501. Handle mostly restored.
504. EM II (Pl. 10, Fig. 13).—Cup of coarse clay, black at the core, but varying from brownish-red to black on the surface. Slightly burnished outside, with the marks of the polishing-tool visible as on 501. Base rather thinner than the sides and tending to the concave. Rounded sides almost incurving at the rim. Rounded handle with a wider loop than is usual joining like that of 502.
505. EM II (Pl. 10, Fig. 13).—Cup of coarse brown clay with blacker patches. Smoothed surface. Shape as 502, but handle rather high swung and joining below slightly farther from the base than is usual.
506. EM II (Pl. 10, Fig. 13).—Cup of rough reddish clay with the surface smoothed and slightly burnished. Flat base. Sides rounded below, but with an almost out-splayed rim. Large rounded handle, which has become rather angular in the moulding, with the loop pinched together, joining like that of 502.
507. EM II (Pl. 10, Fig. 13).—Cup of rough reddish-brown clay with smoothed surface blackened in patches, on which the marks of the polishing-tool are just visible

<sup>1</sup> This was particularly clearly proved during the excavations on the Kastellos in the case of the house F 1, which was apparently used continuously from MM I to the end of MM III but in which no MM II pottery occurred.

<sup>2</sup> *Gournia* p. 38 Pl. VI 34.

<sup>3</sup> *Mallia* I p. 50 Pl. XXVII 4.

<sup>4</sup> See *P of M* I p. 589 Fig. 432.



outside, although there is practically no burnish. Slightly concave base. Rounded but rather outplayed sides. Rounded handle joining just below the rim and near the base. Part of this is restored, but it seems to have the loop even more pinched together than 506.

508. EM II (Pl. 10, Fig. 13).—Strainer cup. Coarse reddish-brown clay, neither smoothed nor polished on the surface. Flat base. Rounded sides making a sharper angle with the base than is usual. Handle resembling that of 507. A number of holes are pierced through the base and the side opposite to the handle. These have merely been pushed through from outside, and inside there is consequently a ring of clay left round every hole.

*a.* Sherds from at least one other similar vessel.

509. EM II (Pl. 10, Fig. 13).—Cup of pale reddish clay with some darker patches and less coarse than usual. Surface slightly burnished. Flat base and rounded sides. Rounded handle set on rather askew high at the side.

510. EM II (Pl. 10, Fig. 13).—Cup of same clay as 509. Inside the surface has been wiped round with something which has dragged irregular grooves in the clay. Outside the marks of the polishing-tool are just visible, although the burnish is very low, and there is a slight groove just below the rim. Flat base with a shallow depression inside in the centre. Rounded sides and almost outplayed rim. Rounded handle which has become rather angular like that of 506 set on high at the side.

This cup was bought, but there seems no reason to doubt the word of its owner, who stated that it had been found in the cave.

511. EM II (Pl. 10, Fig. 13).—Cup of rough light-red clay blackened in patches inside. Apparently no surface finish. Flat base. Rounded sides. Rounded handle, set on fairly high at the side, mostly restored.

*a.* Fragments from at least fifty other cups resembling the above examples (501–11). Three sherds have holes bored through them, as though the vessels to which they belong had been ‘killed.’

512. EM II–III (Pl. 10, Fig. 13).—Cup of moderately fine orange-red clay, burnished to red on the surface. Flat base and rounded sides. Strap handle set on high at the side.

*a.* Fragments from some ten similar cups.

## II. Round-bodied, Fine Ware.

513. EM II–III (Fig. 13).—Rim and handle of cup in fine buff clay with dark red to brown wash both inside and out. The handle is rounded and set on high at the side, but not high-swung. Marks of paring where it joins the side of the vessel.

514. EM II–III (Pl. 10, Fig. 13).—Lip-spouted cup of fine yellowish clay. Surface wash varying in colour from red to brown, but without the brilliant mottling of Vasilike wares. Marks of tool running horizontally round the body. The base is restored. The sides are rounded and curve in at the rim, where there is small lip-spout at right angles to the handle. The handle is high-swung and joins at the rim and at the widest part of the body.

## III. Straight, Outplayed Sides.

515. EM III (Pl. 10, Fig. 13).—Cup of coarse reddish-brown clay. The outer surface is very rough, the inner shews irregular tool-marks and has three festoons of white paint extending downwards to about 2.5 cms. from the rim. Flat base. Straight, outplayed sides. Handle flattened, but not so much as that of 512, joining at the rim and near the base.

- a.* Other fragments from cups of similar shape and fabric, but without white paint.
516. EM III (Pl. 10, Fig. 13).—Cup of coarse pinkish-red clay. Outer surface very rough; inner seems to show traces of a dark wash. Flat base. Straight, out-splayed sides. Handle slightly flattened, joining at the rim and half-way down the side.
- a.* Rim and handle of another, similar in fabric and shape, but with a rather thinner wall.
517. EM III (Fig. 13).—Half of cup of coarse red clay with a lighter slip. Dark wash outside, extending just over the rim, with three loops of double lines in yellowish-white paint hanging down the side. Flat base. Straight, out-splayed sides. Rounded handle joining at the rim and near the base.
518. EM III (Fig. 13).—Small cup of rough orange clay. Outer surface very much worn. Shape as 517. Handle mostly missing.
- a.* Handle from similar shape, but very small. The height seems to have been *c.* 3 cms. and the thickness of the wall *c.* 0.2 cm.
519. EM III (Fig. 13).—Rim and handle of cup in red clay. Outer surface rough and shews irregular tool-marks, but is decorated with hatched triangles dependent from the rim, and discs round the handle, in yellowish-white paint. Inside there appears to have been a dark band about 1 cm. wide round the rim. Shape as in 517, except that the handle is rather smaller in proportion.
520. EM III (Fig. 13).—Two sherds from rim and handle of cup in fine buff clay. Dark wash outside, extending about 0.5 cm. over the rim, with decoration of narrow diagonal lines with S's between and broad diagonal lines adjacent, in yellowish-white paint. Inside, groups of narrow, vertical lines on the dark band round the rim. Shape as 517 except that the wall is much thinner and the handle is set on higher at the side. At one point the rim looks as though possibly coming out to a lip-spout like that of 514, but this cannot have been in the usual place at right angles to the handle.
521. EM III-MM I (Fig. 13).—Cup in rather coarse red clay without slip or polish. Two white lines hanging in festoons inside the rim and traces of diagonal white lines outside painted directly on the surface. Shape as 517. The base shews straight string-marks, and the inside of the vessel is ridged, so that it must have been made on the slow wheel. Rim just missing.
522. EM III-MM I (Fig. 13).—Cup in reddish buff clay. Dark red to brown wash outside, extending about 1.0 cm. over the rim. Traces of two bands of white paint below the rim and one just above the base. Flat base with straight string-marks. Sides straight and almost vertical. Handle restored.
- a.* Fragment from cup of similar shape but finer fabric. Buff clay with dark red to brown wash. Two parallel white lines between the junction of the handle and the base.

#### IV. Pedestalled.

523. MM I (Fig. 14).—Part of base of pedestalled cup. Fine buff clay. Apparently plain outside, but surface much worn. Dark wash inside and below kick of base.
- a.* Sherd from rim of similar cup. Dark wash both sides and white band about 2.5 cms. wide below rim outside.

#### V. Tumblers.

524. MM I (Pl. 10, Fig. 14).—Tumbler-shaped cup in coarse red clay. No slip or wash, but decoration of deep cross-hatched incision outside. Base flat, with a knob inside at the centre, which shews the vessel to be wheel-made, although there are no string-marks visible below. Sides rather out-splayed.

525. MM I (Pl. 10, Fig. 14).—Tumbler-shaped cup. Wheel-made. Fine buff clay. Dark lustrous wash outside, extending 2 cms. over the rim, with two sets of three white lines running diagonally from rim to base. Shape as in 524, but sides more outplayed.
- Bases of three more similar tumblers with plain dark wash outside.
  - Base of smaller tumbler (Dr. c. 3 cms.) in yellowish clay. No slip or wash now visible.
  - A number of sherds from rims of similar tumblers, but plain dark wash extending only c. 1 cm. over the rim.
526. MM I (Fig. 14).—Base and side of tumbler. Fabric similar to 525, but the final decoration consists of two horizontal white lines above the base, between which are six scrolls, resembling S's turned on their sides, alternately red and white. Above this six panels divided by vertical white lines contain inverted W's, also alternately red and white, according to their panels.
527. MM I (Fig. 14).—Base and side of tall, tumbler-shaped cup. Fabric similar to 525, but the surface wash varies in colour from warm brown to black, and there is no trace of white paint.
528. MM I (Fig. 14).—Rim and handle of tall, straight-sided cup. Red clay with no surface decoration. Wheel-made from the ridges inside. Rounded handle.
- Fragment of another similar.
529. MM I (Pl. 10, Fig. 14).—Tall cup with handle in fairly fine clay, grey at the core, but with a pinkish-red slip which has partly worn off. Dark lustrous wash inside with three festoons in white paint extending downwards about 1 cm. from the rim. Wheel-made with straight string-marks on the base. Handle rounded, set on rather askew and high at the side.<sup>1</sup>
- Four bases from similar cups in red clay. Diameters vary between 3.5 and 4.5 cms.
  - Four bases from similar but smaller cups, in red clay, with thick dark-red wash outside, and in one case inside also. On another the clay inside is grey and cracked as though it had been inverted over a fire. Drs. c. 2.75 cms.
  - One base from very small cup. Clay grey outside and red within. Dr. 1.5 cm.
530. MM I (Fig. 14).—Half of cup with up-curved rim. Wheel-made. Fine buff clay. Black lustrous wash on both sides.
- A fragment of similar fabric and thickness, perhaps from the same vessel, has the rim pinched together until it overlaps itself, thus forming a small knob at one point.

#### VI. Tumblers with Outplayed Sides.

531. MM I (Pl. 10, Fig. 14).—Cup with outplayed sides. Fine buff clay with dark lustrous wash on both sides a good deal worn. Wheel-made. May have had handle, as half the rim is restored.
532. MM I (Pl. 10, Fig. 14).—Cup similar to 531 in fabric and shape, but slightly larger. Again half the rim is restored.
533. MM I (Pl. 10, Fig. 14).—Cup similar to 531 in fabric and shape. A ribbon handle has been restored, since several such handles were found apparently belonging to this type, but this should probably join just outside the rim as on 534 and 535.
- Nine bases from similar cups, one shewing the beginning of a handle.
  - One base from similar cup but the clay spoilt and cracked as though from over-firing.

<sup>1</sup> This cup was drawn before it was restored, and its sides then seemed more upright than they now appear.

- c. One base from similar cup but shewing marks of vertical paring outside and with the surface wash almost worn off.
  - d. One base from similar cup but with added decoration of cross-hatching in white paint outside.
  - e. One base from similar cup but with the dark wash outside only and a wide horizontal white line about 2 cms. above base.
  - f. One base from similar cup but with dark wash inside only.
  - g. Two bases from similar cups, but without any surface wash, one in buff clay and the other in red.
  - h. A number of sherds from rims apparently from similar cups, since the dark wash is on both sides, but possibly from the tumbler shape (525-30). The walls vary in thickness from 0.2 to 0.4 cm.
  - i. Several ribbon handles joining just outside the rim, as on 535.
  - j. One rim apparently from similar cup with two white lines running diagonally towards the base.
  - k. One rim apparently from a similar cup shews a horizontal dark line with vertical lines dependent from it enclosing bean-shaped blobs. There are traces of a dark wash all over the surface, so that this design must originally have been painted in white, which has worn off, leaving the dark surface where it was protected.
  - l. One rim apparently from similar cup with small floral sprays alternately red and white.
  - m. One rim apparently from similar cup with a wavy, scallop-edge, design between vertical lines in red and white.
534. MM I (Fig. 14).—Fragments of small cup in almost white clay. Thick dark red wash both sides, which has mostly flaked off. Wheel-made and shewing straight string-marks on the base. Rounded handle joining just outside the rim and about two-thirds down the side.
535. MM I (Fig. 14).—Half of cup of pinkish-buff clay with lustrous wash varying in colour from reddish-brown to black both sides. Wheel-made. Ribbon handle joining just outside the rim and halfway down the side.
- a. Six bases from similar cups, varying in diameter from 3 to 4 cms.
  - b. A number of rims from similar cups, one of which has the appearance of worn Vasilike ware, but is in fine fabric.

VII. *Ribbed.*

536. MM I (Pl. 10, Fig. 14).—Cup in fine buff clay, with dark lustrous wash outside extending over the rim to 2 cms. depth. Wheel-made. Horizontal ribbing outside. Ribbon handle restored. This should probably join just outside the rim, as on 535.
- a. Bases of four cups similar but smaller. Diameters varying from 3.5 to 5.5 cms.
  - b. Sherds from rims of similar cups, three of which shew ribbon handles joining just outside the rims, as on 535.
  - c. One very fine fragment from rim of similar cup. Thickness of wall 0.2 cm. at rim and 0.1 cm. in groove.
  - d. Base of similar cup, but covered with a red wash on both sides.
  - e. Rim of coarse greyish clay without slip or wash, but with very regular ribbing, which seems to attach it to this class.
  - f. Two rim fragments in fine buff clay with dark surface wash from carinated cups like 542-4, with ribbing on the upper straight part and a plain surface on the curve below the carination.
537. MM I (Fig. 14).—Base with part of side and handle of ribbed cup similar in shape and fabric to 536 but smaller. The dark wash has an almost metallic

sheen and extends all over the inner surface, where there is an added decoration of four triple sets of diagonal lines: alternately two of white enclosing one of red, and two of red enclosing one of white.

538. MM I (Fig. 14).—Sherd from side of vessel with in-curving body. Fabric and ribbing similar to 536. Shape uncertain.

#### VIII. *Round-bodied.*

539. MM I (Fig. 14).—Cup of coarse sandy clay, grey at core, red on surface, without slip or decoration. Probably wheel-made, but surface too much worn to shew string-marks on base. Flat base, rounded body and outplayed rim, but no sharp carination. Handle seems to have been rounded.
- a. Sherds from two similar cups.
  - b. Sherds from a similar cup, but in finer fabric.
  - c. Some sherds apparently from similar cups, with two or more parallel lines in white paint on the outer surface.
540. MM I (Pl. 10, Fig. 14).—Cup in fine buff clay with reddish-brown lustrous wash on both sides. Wheel-made. Shape similar to 539.
541. MM I (Fig. 14).—Side and handle of cup in fine buff clay with dark lustrous wash on both sides. Wheel-made. Shape similar to 539, but shallower. Ribbon handle joining rather below rim and at widest part of body.
- a. Bases from two similar cups. The larger is in redder clay and shews the beginning of some decoration in white paint outside.
  - b. Two handles apparently from similar cups.
  - c. Rim from similar cup with design of two horizontal lines with a series of vertical bars between (like a ladder) in white paint and a wider red line below.
  - d. Base and part of handle from similar cup, but heavier. Pinkish-buff clay. Red to brown lustrous wash on both sides. Dr. of base c. 5 cms.

#### IX. *Carinated.*

542. MM I-II (Fig. 14).—Three sherds from side of carinated cup in fine buff clay, with dark lustrous wash on outer surface. May have had handle. Presumably wheel-made.
543. MM I-II (Fig. 14).—Base of sharply carinated cup shewing straight string-marks. Fine buff clay. Lustrous wash varying in colour from reddish-brown to black on both sides. Both upper and lower parts of the body are concave from the outside. Probably had a handle.
- a. Fragment of heavier vessel in similar fabric, but with darker wash and a white line round the base. Rather offset base and very much splayed sides. Probably from similar cup.
544. MM I-II (Fig. 14).—Rim and side of carinated cup. Fabric as in 542, but the wash is more metallic in its sheen. The upper part of the body is concave, the lower convex from the outside. Probably had a handle.

#### X. *Wavy-rimmed.*

545. MM I (no illustration).—Fragment from rim of cup in red clay, with some linear design in white, painted directly on the surface. The rim is wavy or fluted. There is the beginning of a rather high-swung ribbon handle.

#### XI. *Straight, Upright-sided.*

546. MM I-II (Fig. 14).—Base of straight, upright-sided cup. Wheel-made. Buff clay with reddish glaze both sides. May have had a handle near the rim, but this is missing.

XII. *Made on Fast Wheel.*

547. MM I-III (Fig. 14).—Rim, side, and handle of cup carinated near the base, in light red clay with a darker wash both inside and out. Distinct ridging both inside and out, as though made on fast wheel. Ribbon handle joining just outside rim and just above the carination.
- a. Base from similar cup shewing circular string-marks in rather thinner ware.
548. MM I-III (Fig. 14).—Rim, side and handle of cup. Fabric as in 547, but the ridging outside even more regular. Straight, outplayed sides. Ribbon handle joining just outside rim and about half-way down side.
- a. Two bases apparently from similar cups shewing circular string-marks.
549. MM I-III (Pl. 10, Fig. 14).—Cup in fine reddish-buff clay, with dark metallic-looking wash outside extending about 2 cms. over the rim. Raised knob inside centre of base with circular grooves round it, and extreme regularity of fabric makes this vessel seem as though made on the fast wheel, although no string-marks are visible on the remaining part of the base. There is also a certain amount of ridging outside on the upper part, although this is not ribbed like 535. Shape resembles 544, but the rim is more upright. A ribbon handle has been restored.
550. MM III (Fig. 14).—Cup of fine cream-coloured clay. Dark wash outside extending 1 cm. over the rim. Circular string-marks on base and very definite wheel-marks on the inner surface make it certain that this cup was made on a really fast wheel. The sides are outplayed, but curve up towards the rim. Only half the vessel remains, but it is unlikely to have had a handle.

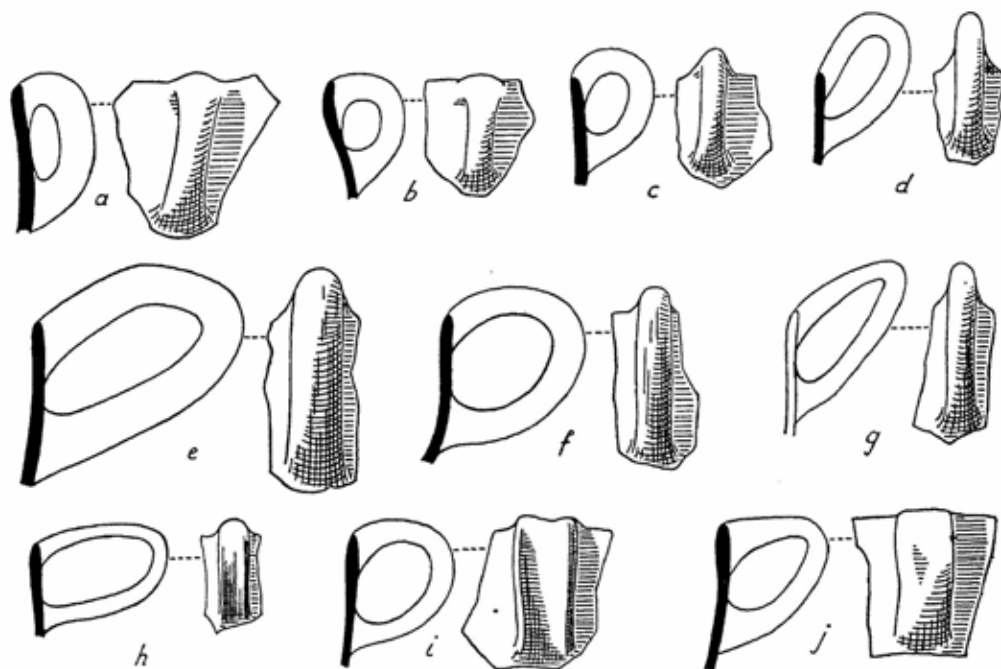


FIG. 15.—CUP-HANDLES.

Scale, 1:4.

*Appendix.*

The cup handles shewn in Fig. 15 are in fabric as follows:—

- a. Coarse, brown clay, no slip or polish.
- b. Coarse, red-black clay, no slip or polish.
- c. Red, gritty clay, no slip or polish.
- d. Brown-black clay, no slip or polish.
- e. Red gritty clay.
- f. Coarse, reddish clay, slightly polished.
- g. Micaceous, red clay, slightly polished.
- h. Reddish clay, dark brown wash.
- i. Coarse red clay, perhaps had dark wash.
- j. Orange, sandy clay, slipped and with reddish-brown wash.

*Jugs. 600.*

(Plates 10–12, Figs. 16, 17.)

Jugs with cut-away necks seem to have been almost unknown in Crete before the EM II period. There are two examples only, one from the Messara and one from East Crete,<sup>1</sup> which are generally ascribed to EM I, and the dating of the former of these has recently been questioned.<sup>2</sup> The shape first appears with the earliest buff-coloured pottery, decorated with dark paint, which slightly precedes, although overlapping with, Vasilike ware.<sup>3</sup> None of the Trapeza jugs need be placed earlier than EM II, but 601, with its light polished slip and traces of a dark linear design, should belong to the beginning of this period. It greatly resembles a vessel from Tomb VI at Mokhlos,<sup>4</sup> where the EM II deposit was pure,<sup>5</sup> and to a lesser extent one from Amnisos.<sup>6</sup> 602 may be contemporary, since in shape it is paralleled by a jug with a spout unusually long for the South of Crete, from Platanos,<sup>7</sup> which is in the characteristic dark on light technique, and it also resembles two examples from Pyrgos,<sup>8</sup> although the dating of these is more problematical. On the other hand, it seems to shew the remains of a dark surface wash, and the harsh light clay of which it is made would be more appropriate to EM III. 603 is also impossible to date with accuracy. It is the exact counterpart of a small jug from Agia Photia,<sup>9</sup> which, owing to its burnish and rippled grooving, was thought to be early, but the deposit in the cave where it was found included pottery from EM I to MM I.

<sup>1</sup> *P of M I* p. 62 Figs. 25, 26.

<sup>3</sup> *Gournia* p. 50.

<sup>5</sup> *Mochlos*, p. 50.

<sup>7</sup> *VTM* p. 94 Pl. L 6873.

<sup>9</sup> *Gournia* p. 56 Fig. 38, 1.

<sup>2</sup> *Annuario XIII–XIV* p. 87.

<sup>4</sup> *Mochlos*, p. 52, Fig. 22, VI 5.

<sup>6</sup> *Πρακτικά* 1930 p. 95 Fig. 6.

<sup>8</sup> *Ἀρχ. Δελτ.* 1918, Fig. 7, 27, 39.



604-20 are more easily placed. They are either of genuine Vasilike ware (604, 605, 614) or else are local imitations of this, in which case the clay is softer and the mottled effect is due to variations in colour in the paint itself rather than to inequalities of firing. The shapes are the same in both instances, and from the evidence of sites in East Crete, where Vasilike ware was properly stratified, these jugs must belong to EM II and the beginning of EM III.<sup>1</sup> It is possible that the imitations are rather later than the others, but on the grounds that pottery which has fallen into disuse is seldom copied, it would be unsafe to separate the two. The question of how the mottling of the surface wash was achieved has long been disputed. Frankfort argues that it is due entirely to the arrangement of the embers in the kiln,<sup>2</sup> but Signorina Banti has recently stated that at all events in the Messara the paint used must have varied in tone before any baking took place.<sup>3</sup> From the Trapeza vessels it appears that both methods were employed, and it is natural that in East Crete, where the decoration originated, the more difficult firing process should have been common, whereas in the South the effect was artificially produced. The true Vasilike jugs shew a dark patch at the centre of each region of mottling, where the flame was in contact with the clay, which is surrounded, first by a lighter circle, then by red which shades off to dark brown according to the degree of oxidation in the atmosphere of the kiln. The imitations have only light-coloured patches surrounded by dark brown, and the two tones do not merge, but have a hard line where they meet. The surface paint in this case is much more liable to wear off, and the whole impression given is far less brilliant. It is remarkable that punctuated designs occur only on this latter class, and at Sphoungaras a jug was found, which seems on close examination to be in similar ware, with a sharp angle at its shoulder like that of 617, and with impressed dots which, it has been suggested, are derived from the rivets of a metal prototype.<sup>4</sup> The dots on this vessel are, however, in a single line, whereas on the Trapeza examples they are arranged in double or triple rows (610, 611, 616), and moreover are present only on the more rounded shapes: they are therefore more reminiscent of the stitching on leather vessels, and the double handle of 610 increases this resemblance, for it would imitate the rolling up of the edges of a strip of hide.<sup>5</sup> The knobs on the neck of 612, unless merely decorative, can, on the other hand, only be referred back to metal nails. At Vasilike pottery of this type was at first thought to be wheel-made owing to the excellence of its finish,<sup>6</sup> and the jugs from Trapeza in the real mottled ware also give this impression. They are, in fact, so much better turned than the rest that it is tempting to see

<sup>1</sup> Cf. *Gournia* p. 50. *Pseira* p. 17. *P of M I* p. 78.

<sup>2</sup> Frankfort *Studies II* pp. 90 ff.

<sup>3</sup> *Annuario XIII-XIV* pp. 84-5.

<sup>4</sup> *P of M I* p. 80.

<sup>5</sup> This theory was suggested by Professor Myres.

<sup>6</sup> *Gournia* p. 50. *P of M I* p. 75.



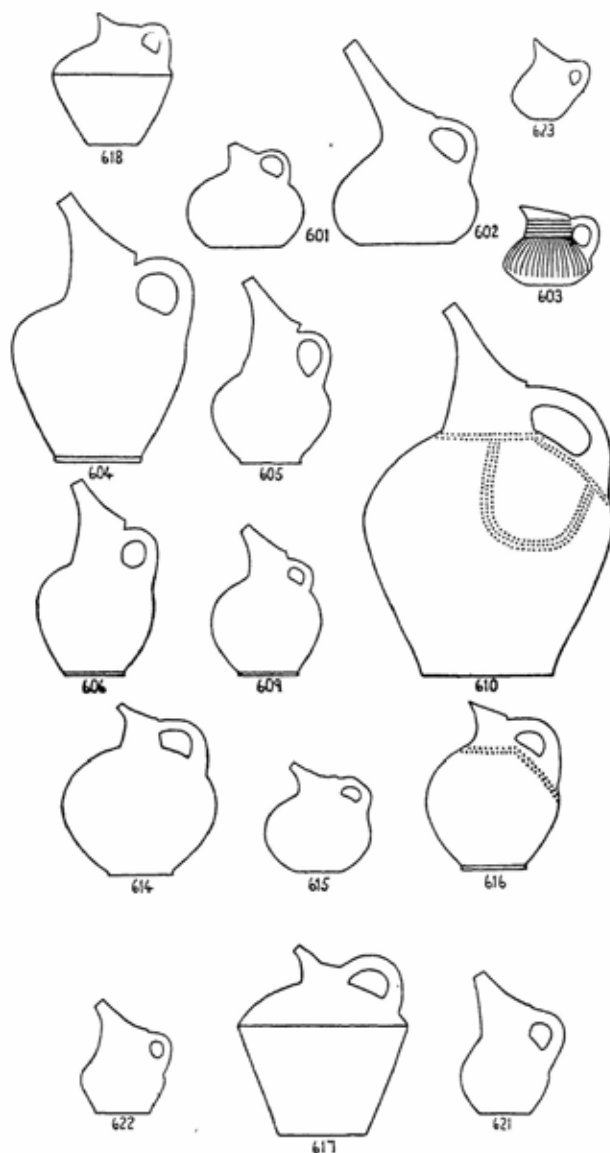


FIG. 16.—JUGS.

Scale, 1 : 6.

in them imports from the East of the island, and the clay from which they are made is also of a slightly different texture and redder in colour. With the commoner painted type it is generally easy to see how the body of the vessel was built up in layers and how the neck was added later. In the

case of the sharp-shouldered jugs (617-19) the whole of the top was made separately and a projecting ring left inside which fitted into the lower part, but the clay of the two halves apparently often did not bind properly, and they have therefore come apart (cf. the MM I neck (633)). The neck was sometimes attached in the same way, but the handle, which was stuck into the wall at its lower end, making a knob in the interior even if not coming right through, then served to anchor the parts together. The wall is always thick, varying from 0.5 to 1.5 cms. It is to be noticed that jugs are the only type of vessel in genuine Vasilike ware found in the cave, but both these and their imitations correspond in shape to those from other sites. The tall variety (604), which is most commonly represented, may be compared with that shewn in *Gournia* Pl. XII 5, the more globular bodied with no. 14 of the same illustration, and those with a sharp shoulder with the example already quoted from Sphoungaras.<sup>1</sup> Only the very rounded and rather wide-necked form (615) is unfamiliar. The grooving above the base (604, 606, 609, 616) also occurs on many jugs in the Candia Museum, although it does not seem to have been previously pointed out. The polished fragments (613) have been included here owing to their correspondence in shape with the mottled wares, and because plain polished pottery of this type was found in conjunction with similar wares at Vasilike.<sup>2</sup>

The three miniature jugs (621-3) should probably be assigned to the end of the EM period, but hand-made vessels of this sort vary so much individually that it is impossible to date them more closely. 621 and 622 resemble to some extent examples from Palaikastro, Pyrgos and Krasi.<sup>3</sup> 623 has a closer parallel from Rock Shelter A at Gournia,<sup>4</sup> in which deposit none of the finds seems obviously to post-date EM II, but such evidence is inconclusive.

624-8 must be transitional between EM III and MM I. 624 resembles in shape a jug from Sphoungaras with typical EM III light on dark decoration,<sup>5</sup> but it is not unlike a vessel from Krasi,<sup>6</sup> and there is nothing to prevent it from being MM I, although jugs of that period, at least at Knossos, generally have a higher shoulder and a more definite angle where the neck joins the body.<sup>7</sup> The metallic-looking knobs on its neck are no guide, for, as has been seen, these already occur on the Vasilike types (612) of EM II-III, and they continue into MM I.<sup>8</sup> The squat, rather angular body of 625 recalls an EM III jug from Mokhlos,<sup>9</sup> but its neck and spout do not differ materially from those of 627 and 628, which, with their moulded

<sup>1</sup> *Sphoungaras* Fig. 21 c.

<sup>2</sup> *Gournia*, p. 50.

<sup>3</sup> *BSA* IX p. 322 Fig. 21, 10. 'Αρχ. Δελτ. 1918 Fig. 6, 10; 1929 Fig. 9, 17, 19.

<sup>4</sup> *Gournia* p. 56 Fig. 37, 8.

<sup>5</sup> *Sphoungaras* p. 51 Fig. 23 d.

<sup>6</sup> 'Αρχ. Δελτ. 1929 Fig. 9, 10.

<sup>7</sup> Cf. *BSA* XXX Pl. XII a and b.

<sup>8</sup> *BSA* XXX p. 61 Pl. XII a 14, p. 62 Pl. XII b 10.

<sup>9</sup> *Mokhlos* p. 23 Fig. 7. II b.

decoration, have more connection with MM I wares.<sup>1</sup> All that can really be proved from these vessels is that in Lasithi there was no break between the EM and MM ages.

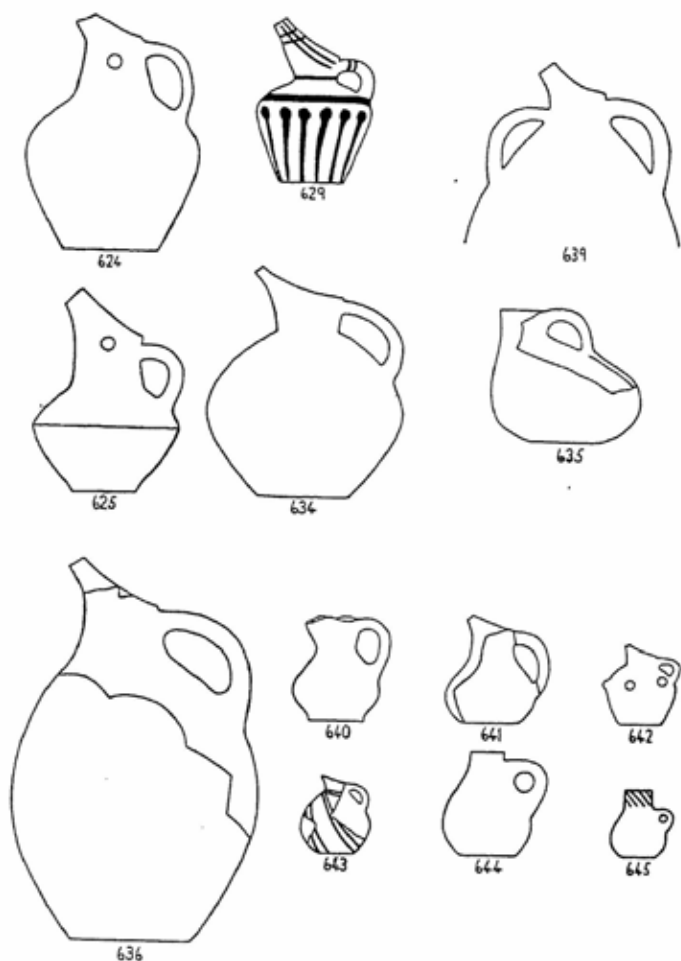


FIG. 17.—JUGS.

Scale, 1 : 6.

629, although the decoration which it bears is unique, is more clearly to be placed at the beginning of MM I. Its shape is not so regular as that of the Knossian jugs of the same period, but the high shoulder and the lines of paint outlining the spout are characteristic, while the design on the body can only be a variation of the trickle pattern so frequently used on con-

<sup>1</sup> Cf. *BSA* XXX p. 61. *JHS* XXVI p. 249 Pl. X 3, 4.

temporary pithoi (cf. 916-18) and also known on jugs in its more ordinary and untidy form.<sup>1</sup> The top half of this jug was bought in Tzermiadha, but its *provenance* was later proved by the discovery in the cave of a base which exactly corresponded in size, shape and fabric, and the whole vessel has now been restored. The spouts (630-1) are evidently from similar specimens, although their lower decoration was probably different. The double lines of paint which follow the lines of their rims should be contrasted with those on EM I-II jugs which run in one direction only, parallel to the end of the lip.<sup>2</sup> 632 and 633 should equally belong to MM I, although the decoration on the former is unusual and the latter shews how the technique of making the neck and spout separately and then applying them to the shoulder of the vessel continued in use. The restored specimen (634) has a dark semi-lustrous wash all over its surface which is typical of the same period; it resembles in shape the more globular of the MM Ia jugs from the Kouloura Houses at Knossos,<sup>3</sup> but with an even rounder shoulder.

The sherd (635) evidently comes from a different type, and should probably be restored to correspond with an askos from Koumasa.<sup>4</sup> The shape is not common in Crete, although there are examples with flatter tops and smaller spouts from Knossos and Pyrgos,<sup>5</sup> but, as Droop has pointed out, it has analogies with an EH mainland class.<sup>6</sup> The moulded ridge on the present vessel is unusual, and it is possible that it was in some way zoomorphic.

The next four jugs (636-9) are even more peculiar, and it is unfortunate that none of them could be restored. The clay is the same in each case: coarse, greyish buff in colour, and with a rough surface, as though from the use of straw or some other 'degraisant,' but well baked and making a metallic clink if dropped. The shape varies: 636 has the widest spout, 637 the longest neck, and 639 is provided with a handle in front as well as at the back, but all are characterised by an extremely sloping shoulder. The bases, from other sherds recovered but not joinable, seem to have been flat and comparatively large. These vessels may have corresponded in general form to an MM Ib jug from Knossos with polychrome and barbotine decorations,<sup>7</sup> but they themselves are entirely plain. They may equally have come near to some askoid examples from Phaistos with brown

<sup>1</sup> *JHS* XXVI p. 249 Pl. X 1.

<sup>2</sup> *P of M I* p. 62 Figs. 25, 26. *Mallia I* p. 49 Fig. 13. 'Αρχ. Δελτ. 1918 Pl. A top left. (Other jugs from Pyrgos have the same design but the paint on their spouts does not shew in the illustrations.)

<sup>3</sup> *BSA* XXX Pl. XII b 15.

<sup>4</sup> *VTM* p. 41 Pl. XXIX 4152.

<sup>5</sup> *P of M IV* p. 79 Fig. 49 a. 'Αρχ. Δελτ. 1918 p. 145 Fig. 6, 23.

<sup>6</sup> *VTM* p. 41 n. 3.

<sup>7</sup> *P of M IV* Pl. XXVIII a. (In this connection it is worth noting that no barbotine ware was found at Trapeza.)

linear designs on the body,<sup>1</sup> but the spouts on these are larger and more forward-tilted. At Palaikastro, too, a shape was found which has some similarity.<sup>2</sup> The fact remains, however, that no exhibit now visible in the Candia Museum affords a real parallel, although from these partial resemblances it is likely that they belong to the MM I period.

The miniature jugs (640-3) require no special comment. They belong to types well known at all MM I sites and especially well represented at Gournais and Krasi. The trefoil spout of 640 has a counterpart from Sphoungaras,<sup>3</sup> where in one place the stratification of miniature jugs above EM III cups was clear, and is also paralleled at Gournais, Phaistos and Gournia.<sup>4</sup> The knobs on the shoulder of 642 in conjunction with its dark-painted design can be matched at Knossos,<sup>5</sup> although at other sites it is more usual to find either the one or the other of these methods of decoration employed separately.

644 is more important, since its shape brings it into relation with the well-defined type of small jug perhaps best known as the 'Khamaizi' pot which follows (645-9). The rim of this vessel is much worn, but it is unlikely that it possessed a spout, since similar specimens from Palaikastro have flat tops.<sup>6</sup> Its clay is coarse, its fabric heavy, and it has no incision round its neck to correspond with that on the 'Khamaizi' pots proper. On the other hand, since, judging from the inscriptions which they sometimes bear (see 645), these must have been used for some ritual purpose, it is extremely interesting to find that the present example, like the cups described under 511a has a hole bored through its side, as though to kill it for the use of the dead. It, too, is presumably MM I in date.

Of the 'Khamaizi' pots themselves, five whole examples were found (645-9), and there are fragments from six others. The ware is the same in all cases. The clay is fine and of a light buff colour, tending to grey or pink, according to the quality of the baking, and lightly polished on the surface. The shape is globular, with a more or less pronounced neck, either upright (645-7) or narrowing towards the rim (648-9), on which there is a decoration of incised lines, either running diagonally all in one direction (645, 646) or cross-hatched (647-9), and sometimes finished below by a single horizontal cut (647 and 649). There is one handle set on the shoulder, which generally seems to have been made separately and applied as a loop to the side (in the case of 647 it has split off), but which on 649 has been pinched out from the body of the vessel and then pierced through. The most important specimen is 645, which has scratched on its base three characters of the hieroglyph class. These are considerably worn, but it is

<sup>1</sup> *Festos* p. 144 Fig. 120; p. 281 Figs. 163 and 164.

<sup>2</sup> *BSA IX* p. 322 Fig. 21, 9.

<sup>3</sup> *Sphoungaras* p. 58 Fig. 30 F.

<sup>4</sup> *Αρχ. Δελτ.* 1918 p. 46 Fig. 1, 9. *Festos* p. 269, Fig. 152. *Gournia* p. 38 Pl. VI 24.

<sup>5</sup> *JHS XXVI* p. 249 Pl. X 1.

<sup>6</sup> *BSA IX* Fig. 21, 11.

possible to make out (1) the libation vase, which Evans compares to the Egyptian *qebeh* and considers to have a religious significance<sup>1</sup>; (2) an animal with its head turned back, which does not exactly correspond to any of the known signs, but which should be compared with the dog on seal 15<sup>2</sup>; and (3) two S scrolls turned opposite ways<sup>3</sup> (see also seal 18 below for illustration). Curiously enough, this type of pot does not seem to occur either at Knossos or Phaistos, but to be confined to the East of Crete, with an extension along the northern coast to Gournais and Mallia. Many examples have already been found,<sup>4</sup> some of which are inscribed (from Mallia and Prodhromos Botsanou). From the Khamaizi evidence it seems clear that they must be dated to MM I, and although the hieroglyph system reached its most developed form at Knossos in MM II, it was already in use during the preceding age,<sup>5</sup> so that its occurrence on them is no real objection to their earliness, and only helps to prove that MM II was a palatial phase which chronologically overlapped with MM I in the outlying districts of Crete. Chapouthier wishes to date all the Mallia writings to the beginning of MM III,<sup>6</sup> and would make no distinction between these vases and the clay sealings, but this is mainly because, as he points out, Mallia has no MM II palace, and there seems to be no reason why the former should not belong to the MM I occupation of the site, the existence of which is abundantly proved by other pottery. Equally it is possible that their manufacture continued longer than is generally supposed, for a ritual type of vessel may be supposed to alter less than one in common use, and it is worth noticing that on the Kastellos, in the house Fr, a particularly large and well-made specimen of this class was found in a context which suggested that it should be dated to MM III. On the other hand, so little pottery from the cave could be assigned to that period that it is hard to believe that the eleven examples represented there are anything but MM I.

The last vessel in this class (660) is included as a jug merely because it has a handle to assist in pouring out its contents. It is made of fine but rather soft buff clay, and has a much-worn decoration of chalky white lines on a dark wash, which proves it to belong to MM I. It has a double body, with an open neck above one half only, but with a hole between the two so that both would contain whatever liquid was placed in it. Similarly

<sup>1</sup> *Scripta Minoa* p. 197 sign 40.

<sup>2</sup> Also with dogs on other EM seals. *Scripta Minoa* p. 11 Fig. 5 b; *P of M IV* p. 521 Fig. 464, 3.

<sup>3</sup> *Scripta Minoa* p. 230 sign 136.

<sup>4</sup> Khamaizi: 'Εφ. 'Αρχ. 1906 p. 148 Pl. IX. *Vrokastro* p. 117. Palaikastro: *BSA IX* p. 323. Sphoungaras: 'Αρχ. Δελτ. 1918 p. 47. Gournais: *loc. cit.* *Mallia II* p. 6. Prodhromos Botsanou: *Scripta Minoa* p. 12. Arvi: *loc. cit.* Isthmus of Hierapetra: *B.M. Catalogue of Vases A.* 443. Gournia (in the Hierapetra Museum).

<sup>5</sup> *P of M I* p. 195 and ch. 13.

<sup>6</sup> *Mallia II* p. 6.

shaped pots have been found at Koumasa and Gournais,<sup>1</sup> and although the former of these is attributed to EM III, the latter is unlikely to be so early, so that the type in general must be held to have lasted into the succeeding age.

#### I. *Polished Buff Clay.*

601. EM II (Pl. 11, Fig. 16).—Jug in buff clay with a polished slip which has flaked off in many places. There are traces of dark paint on the body and of some linear decoration on the spout. The body is squat and the neck small. The handle and the end of the spout are restored.

#### II. *Tall-spouted.*

602. EM II (Pl. 11, Fig. 16).—Jug in sandy pinkish-red clay with a comparatively thin wall. There are traces of a dark wash on the body. The body is squat with a low shoulder, and the spout exaggeratedly long.

#### III. *Black Burnished.*

603. EM II (Pl. 11, Fig. 16).—Small jug in reddish-brown clay, with the surface burnished black but considerably worn. There are a series of grooves running vertically on the body and horizontally round the neck, which give a rippled effect to those parts where the burnish remains. The shoulder is low and angular. The spout has been partly restored.
- a. Neck from another jug exactly similar.
  - b. Neck and spout from another, similar in shape but smaller. Clay grey right through, black burnished, with two horizontal grooves round the base of the neck.
  - c. Sherd from the base of another. Similar clay and burnish, but with a distinct groove round it as on 604, 606, 609, 616. Also sherd, apparently from the same vessel, shewing how the handle was stuck through the wall, unlike that of the whole jug above.

#### IV. *Real and Imitation Vasilike Ware.*

604. EM II (Pl. 11, Fig. 16).—Jug in real Vasilike ware with very thick wall. Flat base with a groove running round the vessel just above it. High shoulder. Tall, upright spout. End of spout and part of handle restored.
605. EM II (Pl. 11, Fig. 16).—Jug in real Vasilike ware with the surface rather worn. Slightly offset base. Roundish body. Tall, upright spout with a distinct angle where the neck joins the shoulder. Handle rather flattened laterally.
606. EM II–III (Pl. 11, Fig. 16).—Jug in imitation Vasilike ware on which the paint has been applied so as to form a symmetrical pattern with a dark vertical band below the spout and two light patches at either side. Groove above base as on 604. Shape much as in 604, but the shoulder more rounded. Part of handle restored.
607. EM II–III (Pl. 11).—Spout, neck, and shoulder of jug similar in fabric and shape to 606, but larger. Ht. 17.5 cms. Lower half restored.
608. EM II–III (Pl. 11).—Jug similar to 606 in fabric and general shape, but with a rather shorter neck and spout. Ht. 14.5 cms. Neck and spout from another similar.

<sup>1</sup> *VTM* p. 14, 4174 Pl. XX. 'Αρχ. Δελτ. 1918 p. 48 Fig. 2.

609. EM II-III (Pl. 11, Fig. 16).—Jug in imitation Vasilike ware. The base is slightly concave and has a groove above it as on 604. The body roundish and the neck and spout rather shorter than in the preceding specimens. The spout, the end of which is restored, shows marks of vertical paring.
610. EM II-III (Pl. 11, Fig. 16).—Jug in imitation Vasilike ware, with punctuation in double lines round the neck and handle and triple lines in deep festoons on the body. The paint has been applied so as to make a design within these festoons. The centre is light, surrounded by a thin dark band, and with a final circle of reddish-brown inside the dots. The shape resembles that of 604, except that the shoulder is more rounded and the handle double. Base restored.
611. EM II-III (Pl. 11).—Shoulder and handle from jug in imitation Vasilike ware, from which the paint has almost entirely worn off. Punctuation round the handle as on 610, but with the dots more elongated, and evidently made with a larger instrument.
612. EM II-III (Pl. 11).—Neck and spout from jug similar in shape and fabric to 604 or 610, but with two knobs near the rim of the spout, one at either side.
613. EM II-III (Pl. 11).—Sherds from neck and shoulder of jug in reddish clay burnished on the outer surface. Shape seems to be similar to 610.
614. EM II (Pl. 11, Fig. 16).—Jug in real Vasilike ware. The body is rounded, but the base distinct. The neck and spout are small. Tip of spout and part of handle restored.
615. EM II-III (Pl. 11, Fig. 16).—Jug with very worn surface, probably imitation Vasilike ware. The body is rounded and rather squat with no sharp angle at the base. The neck is fairly wide, but short.
616. EM II-III (Pl. 11, Fig. 16).—Jug in imitation Vasilike ware with a double line of punctuations round the front of the neck and running down to enclose the base of the handle. Groove above base as on 604. Body rounded, but tall. Neck and spout small.
- a. Shoulder from another of exactly similar fabric and shape, also punctuated.
617. EM II-III (Pl. 11, Fig. 16).—Jug in imitation Vasilike ware. The base is flat, and from it the sides rise, straight but outspread, to the shoulder, where there is a sharp angle. Neck and spout small.
- a. Fragments of some six more jugs with a similar sharp angle at the shoulder.
618. EM II-III (Pl. 11, Fig. 16).—Jug in imitation Vasilike ware. Shape similar to 617, but the angle of the shoulder not quite so sharp and the neck wider.
619. EM II-III (Pl. 11).—Jug similar to 618. End of spout and lower half of body restored.
620. EM II-III (Pl. 12).—Shoulder from jug similar to 618, but making a very sharp angle.

#### V. *Miniature, Red Ware.*

621. EM III (Pl. 12, Fig. 16).—Small jug in red clay with slightly polished surface. The body is rounded and the neck and spout are comparatively large, but the vessel does not stand straight, and is roughly made.
622. EM III (Pl. 12, Fig. 16).—Small jug in coarse red clay with slightly polished but much-worn surface. The neck is wide at the base and runs into the shoulder without making any sharp angle. The handle is stuck right through the wall at its lower end. Top of spout restored.
623. EM III (Pl. 12, Fig. 16).—Small jug in coarse red clay without surface finish. The base is almost rounded, and there is no sharp angle between neck and shoulder. The body is tilted back so that the tip of the spout, which is rounded, comes nearly above the centre of the base.
- a. Base and part of handle of another similar in fabric and shape.



VI. *Red Ware.*

624. EM III-MM I (Pl. 12, Fig. 17).—Jug in rough reddish clay with traces of dark wash all over the surface. Fairly high but rounded shoulder. Wide neck with two knobs, one at either side. The base is restored.
- a. Two other necks with knobs from similar jugs.
625. EM III-MM I (Pl. 12, Fig. 17).—Jug in red clay, with slightly polished surface. The body is low and makes a sharp angle at the shoulder. The neck is tall and wide and has two knobs as on 624.
626. EM III-MM I (Pl. 12).—Neck and spout from jug similar to 625, with two knobs, but with the tip of the spout rounded.
627. EM III-MM I (Pl. 12).—Neck and spout of jug similar to 625, which, as well as knobs, has a moulded rope design round the base of the neck.
628. EM III-MM I (Pl. 12).—Neck of jug similar to 625, which, as well as knobs, has a moulded ring round the base of the neck with a dependent ridge on the shoulder, either representing the handle or coming below the spout since it is placed between the knobs.

VII. *Buff Ware with Dark Paint.*

629. MM I (Pl. 12, Fig. 17).—Jug in brownish-buff clay, with dark brown matt painted decoration forming thin double lines on the spout following the contours of the rim, a wide band round the top of the shoulder, and below a series of blobs with dependent trickles reaching nearly to the base. There are tool-marks on the neck, but no definite paring. The shoulder is fairly high, but rounded. The neck narrows towards its base, but with a slight bulge below the spout. The handle is partly restored, and the top of the jug, which was bought, does not actually meet the base which was found in the cave.
630. MM I (Pl. 12).—Spout and neck of jug in exactly similar technique to 629.
631. MM I (Pl. 12).—Spout and neck of jug in similar clay to 629, but in rather finer ware and better modelled. The lines on the neck are in red paint.
632. MM I (Pl. 12).—Shoulder and part of neck of jug in similar clay to 629, but with a decoration of wide bands in semi-lustrous, brownish-red paint.
633. MM I (Pl. 12).—Neck and spout of jug of similar shape to 618, but in lighter-coloured buff clay and with a dark, semi-lustrous glaze on the outer surface. The neck has broken off just below the junction with the shoulder, and shews clearly that it was made separately from the body of the vessel and then applied over it.
634. MM I (Pl. 12, Fig. 17).—Jug in flaky, buff-coloured clay with a dark, semi-lustrous glaze on the outer surface similar to 633. The body is unusually globular and the neck large. The handle is set on rather askew. Much of the body restored.

VIII. *Askos.*

635. MM I (Pl. 12, Fig. 17).—Fragment from askos in buff clay with a dark, much-worn surface glaze. The neck must have been large, and there is a moulded ridge running down the back of the vessel in line with the handle.

IX. *Coarse, Light-coloured Clay.*

636. MM I (Pl. 12, Fig. 17).—Neck, handle and part of shoulder of large jug in coarse greyish-buff clay with a pitted surface, as though from the use of chopped straw as a 'degraisant,' but hard baked and making a metallic ring if dropped. The shape is uncertain, but may have been askoid.
637. MM I (Pl. 12).—Neck of jug in exactly similar ware to 636, but shewing marks of paring. The neck is tall and there are two knobs, one at either side. It merges without break into the shoulder, which is very sloping.

638. MM I (Pl. 12).—Handle of jug in exactly similar ware to 636.  
 639. MM I (Pl. 12, Fig. 17).—Top of jug in exactly similar ware to 636. The spout is small and merges into the shoulder almost without neck. The shoulder is sloping, but less so than in 637. There is a handle at the back, in the usual place, and below the spout another has been restored, since the mark of where the original must have been is distinct.

X. *Miniature.*

640. MM I (Pl. 12, Fig. 17).—Miniature jug in plain red ware, but of fairly fine fabric. Straight string-marks on the base shew that it was made on the slow wheel. There is a slight groove above the base, the shoulder is low, the neck wide and the mouth trefoil-shaped owing to being pinched in at the sides.  
 a. Part of the lip of a similar jug, but rather larger, and with the pinching of the mouth even more marked.  
 641. MM I (Pl. 12, Fig. 17).—Miniature jug in buff clay with traces of a dark wash on the surface. Spout and front half missing.  
 a. Part of another similar, but rather smaller.  
 642. MM I (Pl. 12, Fig. 17).—Miniature jug in buff clay with a smooth surface and lines of dark paint round the neck, as well as traces of some much-worn decoration below. The shoulder is fairly high and there is a series of knobs at the angle.  
 643. MM I (Pl. 12, Fig. 17).—Miniature jug in buff clay with a smooth surface, and diagonal lines of dark paint on the body. The body is globular. Spout and base missing.  
 a. Part of another similar, and with decoration of diagonal lines of dark paint enclosing a wavy line.

XI. *Miniature, Pear-shaped.*

644. MM I (Pl. 10, Fig. 17).—Miniature jug in rough red clay, grey at the core, and rather heavy in fabric. Pear-shaped body merging into the neck without a break. Top of neck broken off, but since the general shape is exactly like that of 645-9, it is unlikely that there was ever a spout. A hole has been bored through the side near the front.

XII. '*Khamaizi*' Pots.

645. MM I (Pls. 10, 14, Figs. 17, 21).—Miniature jug in fine buff clay with smooth, slightly polished slip. Decoration of diagonal slashes on the neck. Three characters of the hieroglyph script inscribed on the base: (1) an animal, probably a dog, with its head turned back over its shoulder, (2) a libation vase, (3) two S scrolls turned opposite ways. (See Seal 18.) Flat base, pear-shaped body and high collared neck. Small loop handle on the shoulder at one side.  
 646. MM I (Pl. 10).—Miniature jug of the same fabric, decoration, and shape as 645, but with a finer, harder finish, and without inscription. Ht. 5.5 cms.  
 647. MM I (Pl. 10).—Miniature jug of the same fabric as 645. Hatched incision on the neck finished below by a single horizontal cut round the vessel. Shape as in 645, but the handle has split off from the shoulder. Ht. 6.0 cms.  
 648. MM I (Pl. 10).—Miniature jug of the same fabric as 645 and with the same decoration as 647, but without the horizontal cut below the hatching. The body is rather more squat than in the preceding examples and the neck widens towards the base, and so merges more gradually into the shoulder. Ht. 5.2 cms.  
 649. MM I (Pl. 10).—Miniature jug of the same fabric as 645 and with the same decoration as 647. The body is very squat and there is no angle between neck and shoulder. Small handle placed low at the side, formed by pinching up some of

the clay from the body and then piercing the half-disc thus produced horizontally.  
Ht. 4.2 cms.

- a. Fragments from six more jugs of the type of 645-9.

### XIII. *Double Vessel.*

650. MM I (Pl. 10).—Two joining sherds from a double vessel in buff clay with a dark surface wash and traces of some white linear decoration. Both halves of the vessel must have been roughly globular, but only one, which runs up to a collared neck, is open at the top, although there is a communicating hole between them. A rounded handle goes in an arch from just below the rim of the open half to the top of the closed one.

### *Bottles.* 700.

(Plate 13, Fig. 18.)

Two small, bottle-shaped jars (701 and 702) in dark burnished ware are extremely primitive in appearance. 701 resembles a vessel from the early burials at Agios Nikolaos,<sup>1</sup> except that it is smaller and darker, and also recalls two better-finished examples from the Agia Triadha 'Tholos.'<sup>2</sup> 702 is most nearly paralleled from Gournia,<sup>3</sup> but the sherds from similar but larger jars which have been included with it bring it into relation with a vessel from Amnisos which is of exactly the same shape, although it stands over 30 cms. high.<sup>4</sup> The form of both is uncommon, and does not occur in any stratified EM II deposit,<sup>5</sup> so that it seems clear that they must belong to EM I. They are, in fact, almost the only pots from Trapeza of which this can be said with any certainty.

The three small amphorae which follow are of a type which has been found on several other sites in an MM I context.<sup>6</sup> During EM times a rather similar shape occurs, but either with vertical handles<sup>7</sup> or else altogether larger.<sup>8</sup> Both the Knossos and Krasi examples quoted above have decorations in dark paint running more or less vertically from neck to base, and greatly resemble 704. Moreover, the discs which this bears have their counterparts on jugs from the former site,<sup>9</sup> which, like the amphora, belong

<sup>1</sup> BSA IX p. 342 Fig. 2.

<sup>2</sup> *Annuario* XIII-XIV p. 12 Fig. 7 c.

<sup>3</sup> *Gournia* p. 56 Fig. 37, 10.

<sup>4</sup> *Πρακτικά* 1930 p. 95 Fig. 5 top row, centre.

<sup>5</sup> Signorina Banti is, however, inclined to assign the Agia Triadha specimens to EM II.

<sup>6</sup> Knossos: BSA XXX p. 65 Pl. XII b 4. Krasi: 'Αρχ. Δελτ. 1929 p. 115 Fig. 9, 8. Gournais: 'Αρχ. Δελτ. 1918 p. 46 Fig. 1, 5.

<sup>7</sup> Pyrgos: 'Αρχ. Δελτ. 1918 p. 144 Figs. 5, 2 and 6, 19 and 13.

<sup>8</sup> Pyrgos: *loc. cit.* Fig. 5, 4. *Mochlos* pp. 76 and 97 Fig. 46 XXI 5. Two specimens, one from Koumasa (*VTM* p. 14 Pl. XX 4234) and the other from Agia Triadha (*Annuario* XIII-XIV p. 19 Fig. 19), are respectively 10.5 and 8 cms. high, and although ascribed to EM III, probably belong to the end of this period, and are in consequence contemporary with MM Ia at Knossos.

<sup>9</sup> BSA XXX p. 62 Pl. XII a 21.

to MM Ia. It can in consequence be confidently ascribed to this restricted period.

The base (706) has been included here since it does not seem to belong to either jug or cup, but the shape to which it should be restored is quite



FIG. 18.—BOTTLES.

Scale, 1 : 6.

uncertain. It is obviously made on a fast wheel, and the wash which covers it is of rather a different quality from the usual Minoan paint, so that it is not impossible that it belongs to Greek or Hellenistic times.

#### I. *Handleless.*

701. EM I (Pl. 13, Fig. 18).—Small bottle of dark grey clay, burnished black outside. The base is flattened, but the vessel stands crookedly and is roughly made and asymmetrical. The body is globular, with a high neck and slightly flaring rim, just below which two small holes are pierced, one at either side.
702. EM I (Pl. 13, Fig. 18).—Small heavy bottle in dark, reddish clay, burnished black outside. The base is flat, but the vessel stands crookedly. The body is carinated, but the angle at the shoulder does not run in a horizontal plane, but dips distinctly to one side. The neck probably resembled that of 701, but the rim is missing.
- a. Sherds from two other bottles of similar fabric and shape, but larger.

#### II. *Amphoras.*

703. MM I (Pl. 13, Fig. 18).—Small amphora in light red coarse clay with a finer slip. Surface much worn. The shoulder is rather high, and from it spring two arched horizontal handles, one at either side. The neck is high with a flaring rim.
704. MM I (Pl. 13, Fig. 18).—Small amphora of fine buff clay with a smooth slip. Decoration of discs with triple diagonal slashes between in matt purplish-brown paint. Shape of body and handles as in 703, but there is no neck, only a flaring rim.
705. MM I (Pl. 13, Fig. 18).—Small amphora in fine buff clay, with a dark wash outside and extending over the outward flare of the rim, on which sets of double white lines run diagonally from neck to base. The surface is considerably worn. The shape is similar to that of 704, but with a rather lower shoulder.

#### III. *Wheel-made.*

706. MM ? (Fig. 18).—Base, possibly from bottle-shaped jar, in hard reddish-buff clay with a wash outside on the sides varying in colour from red to black, and extending just over the angle of the base. There are very clear wheel-marks on the inner surface, but no striations at all below the base.

*Goblets.* 800.

(Plate 13, Fig. 19.)

Fragments were found from a number of goblets with hollow conical bases. The earliest specimens (801, 801*a*) are in the grey powdery ware described above (see Bowls 109–19), but this ware is so friable that the only part of them which now remains is the thick stem which comes immediately below the cup. They correspond to a type found in the Sub-Neolithic levels at Knossos,<sup>1</sup> and perhaps have analogies with the pattern-burnished chalices of Pyrgos and Arkalokhori,<sup>2</sup> although they are so much worn and broken that it is impossible to distinguish any decoration. They probably fall within the EM I period, for although a spouted goblet in grey ware occurred in Tomb VI at Mokhlos, where all the pottery belonged to the earliest phase of EM II,<sup>3</sup> this was of a sophisticated type and, as Seager pointed out, was itself derived from earlier vessels. On the other hand, it must be remarked that no high conical stems were found in the EM I burials at Agios Nikolaos,<sup>4</sup> nor yet in the Sub-Neolithic–EM I cave at Miamou.<sup>5</sup>

At Trapeza the same shape occurs in dark gritty clay (804–5) apparently without any surface decoration, and two lower bases (802–3) are also in this fabric. One of the latter (802) closely resembles the base of a footed bowl from Mokhlos,<sup>6</sup> which is dated to EM II, but again all are too fragmentary for their chronology to be certain.

Three examples in red clay (806–8) probably come rather later, although they should still, by analogy with the previous sherds, fall within the limits of EM II. They are chiefly interesting for the manner in which they shew how this class of vessel was made in two parts. 806 finishes above in a knob, which must have acted more or less as a dowel and fitted into the bottom of the cup-like top. 808 has no such projection, but is flat above, so that its other half must have been placed on it when it was comparatively dry, and the edges of the join merely smoothed over outside, by a potter with more optimism than desire for endurance. The hole up its centre is too small for the finger to penetrate, and is consequently left rough: it is unclosed at the top, where it would have been covered by the upper part of the goblet.

809 and 810 belong to the well-known type of Vasilike ware ‘egg-cups’ which have been found in quantity on all East Cretan EM II sites,<sup>7</sup> but, like the jugs (606–12, 615–20) mentioned above, they are not in the true

<sup>1</sup> *P of M* I p. 59.<sup>2</sup> *Αρχ. Δελτ.* 1918 pp. 156 ff. Figs. 8–11. *BSA* XIX p. 39 Figs. 3 and 4.<sup>3</sup> *Mochlos* p. 52 Figs. 22 and 23, VI 11.<sup>4</sup> *BSA* IX p. 340.<sup>5</sup> *AJA* 1897 pp. 287 ff.<sup>6</sup> *Mochlos* p. 74 Fig. 32 XXI 1.<sup>7</sup> Cf. *Gournia* p. 50 Pl. XII 15, *Sphoungaras* p. 49. *BSA Supp.* I p. 6 Fig. 3, *f* and *g*.

Vasilike technique, for the mottling of their surfaces has been produced by painting, and not by firing. 809 is unusually tall, and perhaps corresponded in shape to the cup figured in *Sphoungaras* p. 47 Fig. 21 D.

The final development of this class seems to have been reached in the MM pedestalled cups of Knossos,<sup>1</sup> but these are not common in East Crete,

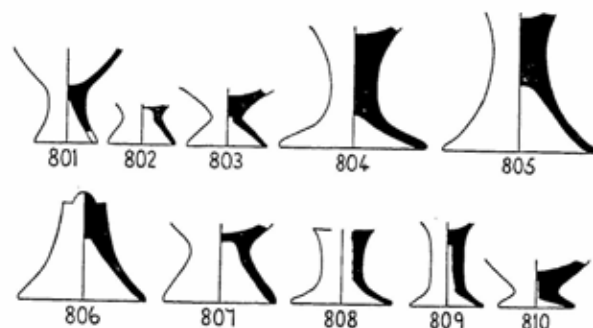


FIG. 19.—GOBLETs.

Scale, 1 : 4.

although occurring at Palaikastro,<sup>2</sup> where the shape almost dies out at the end of EM II, and only one example came to light at Trapeza, which has been included under cups (523), since similar vessels have always been referred to as such in previous publications.

#### I. *Soft Grey Ware.*

801. EM I (Pl. 13, Fig. 19).—Part of base and stem of goblet in grey powdery clay. The surface is much worn, but may have been slightly burnished. The foot must have been high and hollow, but its rim is missing.

a. Fragments from three bases of similar fabric and shape, but rather larger.

#### II. *Coarse Dark Ware.*

802. EM I-II (Pl. 13, Fig. 19).—Base of goblet or bowl in gritty grey clay, apparently without surface finish. The foot is conical and hollow, but rather low. There is now a small hole broken between the inside of the cup and the kick of the base, and the wall at this point must have been as thin as paper when the vessel was new.

a. Fragment from a base in grey powdery clay of similar shape, the wall of which seems to have been equally thin at the centre.

803. EM I-II (Pl. 13, Fig. 19).—Base of goblet or bowl in gritty grey clay with traces of dark burnish on the surface. Shape similar to 802.

804. EM I-II (Pl. 13, Fig. 19).—Base of goblet in gritty grey clay without surface finish. The stem is high and hollow, flaring outwards at the foot.

<sup>1</sup> *P of M I* Fig. 118 a 7 and Fig. 122, 7, 9, 10.

<sup>2</sup> *BSA IX* p. 303, 9.

805. EM I-II (Pl. 13, Fig. 19).—Base of goblet in gritty brownish clay without surface finish. Shape as in 804.

a. Fragment of another in reddish clay slightly polished of similar shape.

### III. *Red Ware.*

806. EM II (Pl. 13, Fig. 19).—Base of goblet in red clay without surface finish. Shape as in 804, but stem lower. A knob at the top shews how upper part of the vessel was attached after being separately made.

807. EM II (Pl. 13, Fig. 19).—Base of goblet or bowl in coarse orange clay apparently without surface finish, but much worn. The stem is fairly low, but flares widely at the foot.

808. EM II (Pl. 13, Fig. 19).—Base of goblet in brownish-buff clay slightly polished. The stem is tall and hollow, flaring at the foot. Inside this the surface is smooth at first, but when the opening becomes too narrow for the finger to penetrate, the clay is left rough, although the hole goes right through the existing part. The top is cut off quite flat, and the upper part of the vessel must have merely been placed on this after being separately made.

### IV. *Imitation Vasilike Ware.*

809. EM II-III (Pl. 13, Fig. 19).—Base of goblet or cup in buff clay with traces of a darker wash on the surface varying in tone and imitating Vasilike ware. The shape is similar to 808, but the foot flares outwards more sharply. The inside of the stem is hollow as in 808.

810. EM II-III (Pl. 13, Fig. 19).—Base of goblet or cup in similar fabric to 809. The stem is low and the foot widely flared. There is a very small hole up the centre of the stem.

a. Base similar, but rather larger and heavier, and consequently with a more hollow stem.

### *Pithoi and Larnakes.* 900.

(Fig. 20.)

Many sherds from pithoi were found (901-26, 931, 932), representing some thirty vessels, but these were mostly too small and worn for it to be possible to piece them together. The earliest is perhaps 901, the moulding on which recalls that of the Trapeza ware cooking-pot (T. 26), although its clay is better baked. It is too fragmentary either to tell its shape or date with certainty, and pithoi are at the best hard to place chronologically, since, for the pre-palatial ages, few have been recovered from stratified sites. It should, however, ante-date MM I, and pithoi were certainly made during the EM period, for an EM III seal stone from near Kastelli Pedhiadha shews a potter at work on an exaggeratedly large vessel of this type.<sup>1</sup>

The commonest variety (902-12) is in coarse reddish clay, the outside of which has been smoothed by an extra wetting of the surface. 909 is the

<sup>1</sup> *P of M I* p. 124 Fig. 93 A. In the Pedhiadha plain, at Thrapsanos, the potters' craft still flourishes, owing to the good quality of the clay, and the ubiquitous petrol can is rivalled by modern pithoi. A few of these are also made at Pinakiano in Lasithi, the clay coming from Agios Georgios or Kato Metokhi, cf. p. 29, n. 2.

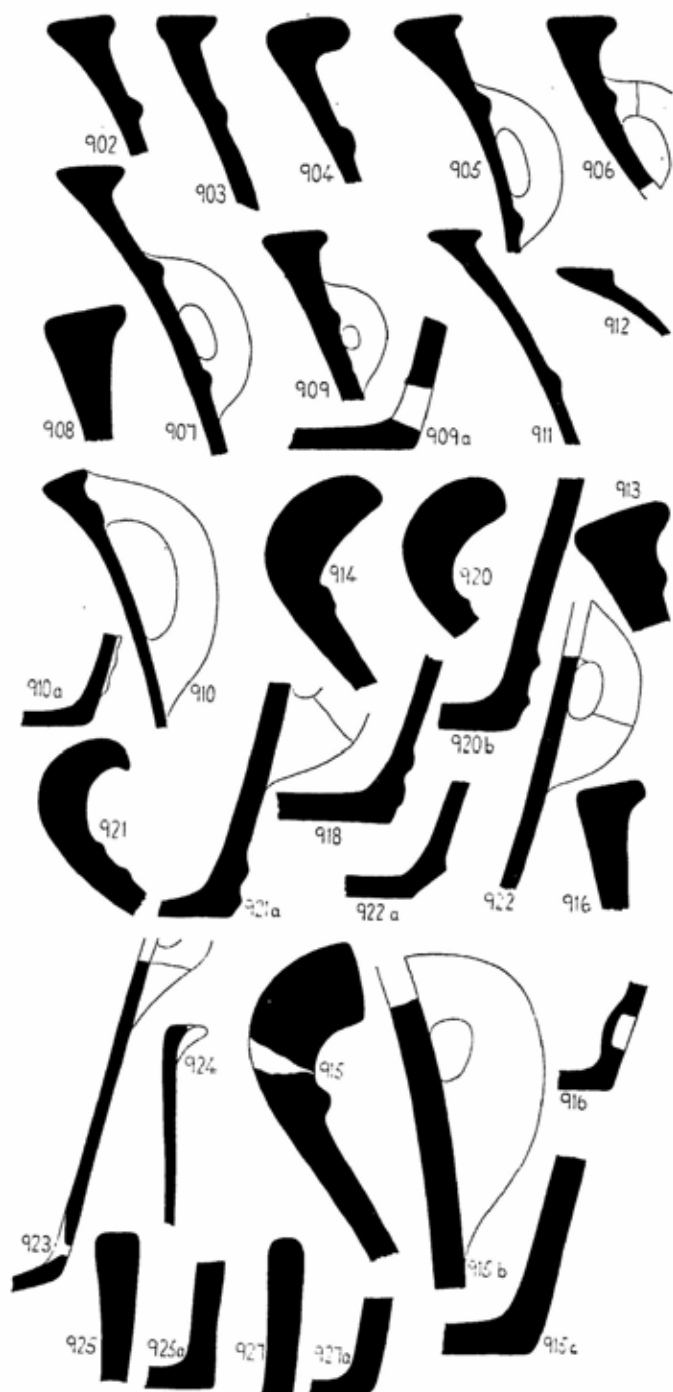


FIG. 20.—PITHOI AND LARNAKES.  
Scale, 1 : 4.



only example which seems to have had a definite slip. These vessels must all have been fairly large, standing some 75 to 100 cms. high, and their walls are remarkably thin in proportion. It is possible that they were built up in sections, and that the rope moulding which they bear was originally used to conceal the joins,<sup>1</sup> but there is no evidence from the manner in which they have broken (as there is on 914, 915) that this was the case, and it seems more probable that the moulding was derived from the tresses of the Trapeza ware vessels (T. 9), which it greatly resembles, in spite of the gap in time between the two. This moulding is formed by a narrow band of clay, pinched up at intervals between the fingers, and is applied in one or more lines, sometimes immediately below the rim (910), but more often farther down the shoulder, which run either horizontally (902-4, 911) or else in festoons looped up so as to coincide with the junction of the handles: it must also have occurred lower on the body, for it is found on many sherds broken all round. The rims are flattened at the top and project slightly outwards. The sides do not appear to have had a very pronounced curve except in the case of 912, and form a fairly sharp angle with the flat bases. Occasionally (909) there is a hole through the wall just above the base which must have served to drain the vessel, and this is paralleled at Knossos and at Pakhyammos,<sup>2</sup> as well as on modern pitharia in which shrubs or creepers are planted. The handles are vertical, and generally placed on the shoulder, but on 910 they spring from the rim itself: they would most often seem to have been four in number, and on this class of pithos do not appear to have been repeated near the base. These pithoi resemble more closely than anything else the vessel from Knossos quoted above. In the Pakhyammos cemetery, which yielded a representative collection of East Cretan types, rope moulding was exceptional, and the present shape of rim did not occur. The Knossian specimen is MM Ia in date, and the Trapeza ones are probably contemporary, although it must be remembered that MM Ia at Knossos overlapped with EM III in the East of the island.

The next group (913-19) is in very gritty buff clay, decorated in three cases with the well-known trickle pattern.<sup>3</sup> 913-15 are thicker in fabric than the preceding examples, but they still bear rope mouldings, although that on 914 is slashed instead of being pinched up in the usual way.<sup>4</sup> The rims of the last two are also different, since they curve back in a heavy collar, and shew clearly how the vessels were built up in separate parts. 916 is the most nearly complete specimen to be recovered, but even this is

<sup>1</sup> Cf. *BSA Supp.* I p. 55.

<sup>2</sup> *BSA XXX* p. 65 Fig. 6. *Pakhyammos* p. 17 Pl. XVI, IV b.

<sup>3</sup> Cf. *Pakhyammos* p. 14 Pls. V and XVI (78 of the 213 pithoi from this site had this design).

<sup>4</sup> Fragments of pithoi from Syros, from the Acropolis near Kalandriane have rope mouldings with diagonal cuts, while others have finger-tip impressions. 'Εφ. 'Αρχ. 1899 pp. 121-122 Pl. 9, 18.

broken into hundreds of fragments, for its wall is thin. It and 917-18, as well as 913, have rims resembling those of 902-12, whereas the pithoi with trickle patterns from Pakhyammos always have thick collared rims similar to those of 914 and 915, but in all other respects they correspond to the examples from that site, and even the ridges of 918 are paralleled there.<sup>1</sup> The attempted hole near the base of 916 is, however, unique, and may merely have been due to some error on the part of its maker, although it must be compared with the real hole on 909. These trickle decorated pithoi seem to have first become common in MM I, although there is mention of one from Vasilike in the third level (EM II) which should be earlier.<sup>2</sup> At Knossos the design continues on the knobbed pithoi of MM II, but in East Crete it appears to persist right up to LM times on vessels which are quite indistinguishable from those of the present class.<sup>3</sup> Considering how little of the other pottery from Trapeza is later than MM I, it is to this period that the present vessels must be assigned.

The three pithoi in dark red ware (920-22) with ridged decoration in shape recall many specimens from Pakhyammos, where indeed vessels with ridges were commoner than those without, although their clay is local<sup>4</sup> and gives them a rather different appearance from those from other sites. A similar pithos was discovered by a local workman on a small terrace outside the cave to the West during the winter of 1936-37, and in company with it were fragments of two MM I bowls and a cup, so that all can be dated to this period. It is probable that the smaller jars (923, 924) are also contemporary.

The two straight-rimmed pithoi (925-6) are more unusual, and it is just possible that they should be considered as some sort of chest, such as that shewn in *Pakhyammos* Pl. XII, XVII c, since their rims are exactly like those of the oval larnax (927), but in this case the bases which have been assigned to them would be too small to belong. These three vessels are all likely to be transitional between EM III and MM I. Oval larnakes of the former period have been found at Pyrgos and Pakhyammos,<sup>5</sup> and of the latter at Pakhyammos and Vorou.<sup>6</sup> They seem to begin earlier than the square-cornered form which is represented by 928, 929, and there is some doubt whether this last can really be ascribed to an earlier date than MM III,<sup>7</sup> although its clay is similar to that of 913-18, and it must again be remembered that very little of the finer pottery was as late as this.

<sup>1</sup> *Pakhyammos* Pl. V.

<sup>2</sup> *Trans. Penn. Univ.* I p. 217. *Gournia* p. 50, also cf. *Pakhyammos* p. 14.

<sup>3</sup> Cf. *Pakhyammos* p. 27 Pl. XVI, XV b, which contained two LM cups.

<sup>4</sup> See p. 29, n. 2.

<sup>5</sup> 'Αρχ. Δελτ. 1918 p. 136 ff. Figs. 3 and 4. *Pakhyammos* p. 28 Pl. XII, XVII b and c.

<sup>6</sup> *Pakhyammos* p. 15 Pl. III; 'Αρχ. Δελτ. 1930 p. 145 ff. Figs. 7, 10, 17.

<sup>7</sup> Cf. *P of M I* p. 586, *Pakhyammos* p. 20. *Trans. Penn. Univ.* II p. 115.

The lids grouped under 930 are, all but one (930a), of similar fabric to the trickle decorated pithoi. They are paralleled from several other sites,<sup>1</sup> although, curiously enough, none seem to have been noted from Pakhyammos, where the pithoi were all inverted for burials, so that it is possible that commonly they were only used when the vessels to which they belonged were kept upright. They must at all events be contemporary with the pithoi which they resemble, and therefore be dated to MM I.

Only one sherd was found from an LM pithos (931). This bears a rope moulding with fishbone incisions similar to that shewn in *P of M* IV Fig. 625 a. It may belong to LM I.

In 1937 an LM III larnax burial was found on a terrace outside the cave to the East, but this seemed to have no connection with any of the pottery which had come to light during the previous season's excavations.

932 is certainly not Minoan at all. It resembles the rims of large store jars subsequently found both on the Kastellos and at Kolonna, and seems to belong to the Archaic Greek period.

The exact use to which these pithoi were put remains a problem. Larnakes and rounded clay chests were sometimes used as coffins during EM III,<sup>2</sup> but there is no evidence for real pithos burials before MM I, and it would have been extremely difficult, considering how small was the original entrance, to introduce a vessel of this type laden with a corpse into the cave at all. Moreover, the human remains, and particularly the skulls, were mostly found covered with a stalagmitic deposit near the side walls, as though they had been placed there without any covering.<sup>3</sup> The evidence from the Kamarais Cave,<sup>4</sup> in which there was apparently no indication of interments, suggests that large jars were used there as receptacles for offerings, and this may also have been the case at Trapeza. In the Messara pithos burials were noticed near the "tholos" at Porti and above the earlier deposit at Dhraikonais,<sup>5</sup> and at Trapeza, too, there were traces of such a cemetery outside the cave;<sup>6</sup> but this proves little more than the continuity of sacred association in spite of a change in burial customs. At Mokhlos, on the other hand, no such burials were found in any way

<sup>1</sup> *Pseira* p. 19 Fig. 4; *Vrokastro* p. 115 Fig. 57 c; *Sphoungaras* p. 60 Fig. 32.

<sup>2</sup> *Sphoungaras* p. 48; *Ἀρχ. Δελτ.* 1918 pp. 136 ff.; *Pachyammos* Pl. XII, XVII c.

<sup>3</sup> The whole deposit in the cave was so much disturbed that this is no certain evidence, and the bones may merely have been kicked to one side by robbers, but none were found in any way connected with pithos sherds.

<sup>4</sup> *BSA* XIX pp. 12, 28, 30.

<sup>5</sup> *VTM* pp. 55, 76.

<sup>6</sup> As well as the pithos burial discovered during the winter subsequent to the excavations, other pithos sherds came to light to the East of the cave in 1937. Also in 1896 Sir Arthur Evans heard of a pithos containing human remains from near the Καβαλλάρης Βώλακας below Trapeza, but this may have been later in date. If any extensive cemetery existed, it would have been destroyed by modern terracing.

connected with the older tombs,<sup>1</sup> and at Pakhyammos an entirely new site was selected. On the whole, it seems best to regard the pithoi from within the cave as receptacles for offerings, and those from without as coffins, although in date they must be contemporary.<sup>2</sup>

I. *With Moulded Band with Circular Impressions.*

901. EM (no illustration).—Fragments from large vessel in coarse red clay decorated by raised bands with circular impressions.

II. *Flat-topped Rim and Pinched-up Rope Moulding.*

902. EM III-MM I (Fig. 20).—Rim of pithos in coarse light red clay, darker at the core and with a smoothed finish. The rim is flat at the top, and there is a decoration of a pinched-up rope moulding running horizontally below it. Dr. 40 cms.
903. EM III-MM I (Fig. 20).—Rim of pithos of similar fabric and shape to 902. Decoration of rope moulding in very low relief. Dr. 33.5 cms.
904. EM III-MM I (Fig. 20).—Rim of pithos of similar fabric to 902, but with a smoother finish. The shape resembles 902, but the rim projects farther outwards. Decoration of rope moulding below. Dr. c. 42 cms.
905. EM III-MM I (Fig. 20).—Rim of pithos of similar fabric and shape to 902. Decoration of two bands of rope moulding running horizontally, but dipping at some places. At one point a vertical loop handle extends between these bands. Dr. c. 32 cms.
906. EM III-MM I (Fig. 20).—Rim of pithos of similar fabric and shape to 902, but, owing to bad firing, the clay is darker than usual and the surface grey in many parts. Rope moulding and handle similar to 905. Dr. c. 33 cms.
907. EM III-MM I (Fig. 20).—Rim of pithos of similar fabric and shape to 902. Rope moulding and handle similar to 905. Dr. c. 33 cms.
908. EM III-MM I (Fig. 20).—Rim of pithos of similar fabric and shape to 902, but unusually thick and heavy. May have had rope moulding, but little of the shoulder remains. Dr. over 40 cms.
909. EM III-MM I (Fig. 20).—Rim of pithos in very gritty, dark clay. There seems to have been a finer light red slip outside, but this is much worn. Shape similar to 902. Rope moulding and handle similar to 905. Dr. c. 35 cms.
- a. Part of base which, from the distinctive clay, seems to belong to the same vessel. A hole has been pushed through the side of this just above the floor level. Dr. c. 28 cms.
910. EM III-MM I (Fig. 20).—Rim of pithos of similar fabric and shape to 902, but with a thinner wall. Decoration of rather wide rope moulding which appears to go in definite festoons. At least two horizontal handles which join above at the rim. Dr. c. 33 cms.
- a. Part of a base which, from its fabric and thickness, may well belong to the same vessel shews the remains of a similar rope moulding slanting down diagonally. Too little remains to tell the diameter.
911. EM III-MM I (Fig. 20).—Rim of pithos of similar fabric and shape to 910. Decoration of wide rope moulding running horizontally on the shoulder. Dr. c. 40 cms.
912. EM III-MM I (Fig. 20).—Rim of pithos of similar fabric and shape to 910, but with an unusually pronounced inward curve. There is apparently no decoration, but only a small fragment remains. Dr. c. 33 cms.

<sup>1</sup> Pithos burial at Mokhlos does not seem to begin before MM III (*Mokhlos* p. 14).

<sup>2</sup> Two MM I pithos burials were found in a small cave at Meskine in 1938.

III. *Buff Clay, Rope Moulding or Trickle Design.*

913. MM I (Fig. 20).—Rim of pithos of gritty brownish-buff clay, grey at the core, but with a smoothed finish. Shape similar to 902, but considerably heavier. Decoration of rope moulding below. Too little remains to tell diameter.
914. MM I (Fig. 20).—Rim of pithos of similar fabric to 913. The rim is very heavy and flares back outwardly. It seems to have been made separately from the shoulder, and in some parts has broken off cleanly. A rather flat rope moulding, which, instead of being pinched up in the usual way, has diagonal slashes along its length, runs round the neck at the point where the rim joins on. There appears to have been a double line of this moulding farther down the body, and also heavy vertical handles. Dr. c. 36 cms.
915. MM I (Fig. 20).—Rim of pithos of similar fabric to 913. The rim flares back as in 914, but is cut off almost square at the edge. It appears to have been made separately as on 914, and has broken off cleanly. Too little remains to tell the diameter.
- a. Part of shoulder of similar fabric, which seems to belong to the same vessel, has a pinched-up rope moulding at the shoulder, and is also decorated with a trickle design in purplish red paint.
  - b. A heavy vertical handle also probably belongs to the same vessel, since it is of similar fabric and bears similar paint.
  - c. A plain base of similar fabric and of corresponding thickness of wall may also belong to the same vessel. Dr. c. 30 cms.
916. MM I (Fig. 20).—Many sherds from rim, side and base of pithos in gritty orange-buff clay, with a lighter wash and a decoration of trickles from the shoulder in black paint. The rim is similar in shape to 913. The vessel must have stood about a metre high. Just above the floor level there is an indentation, forming a lump inside, as though from an attempt to make a hole through the side as in 909. Dr. of rim c. 30 cms. Dr. of base 24 cms.
917. MM I (no illustration).—Sherds from side and base of pithos of similar fabric and shape to 916, but with the trickle design in red paint. None of the rim was recovered, but it is possible that it belongs to either 913 or 914, although on these the trickle does not appear. Dr. of base c. 24 cms.
918. MM I (Fig. 20).—Sherds from side and base of pithos of similar fabric and shape to 916, but rather heavier, and with a decoration of horizontal ridges round the shoulder and the base as well as the trickle design. None of the rim was recovered. Dr. of base c. 25 cms.
919. MM I (no illustration).—Rim of pithos in very gritty light red clay. Shape similar to 914. Too little remains to tell diameter.

IV. *Red Clay, Ridged.*

920. MM I (Fig. 20).—Rim of pithos in gritty dark red clay with smoothed surface. Shape similar to 914, but instead of the rope moulding there is a plain ridge round the neck. Dr. c. 41 cms.
- a. Part of shoulder which from its fabric and thickness should belong to the same vessel has a diameter of about 50 cms. and bears two sets of triple horizontal ridges, between which are heavy vertical handles, probably four in number.
  - b. Part of a base which, from its fabric and thickness, should belong to the same vessel has two ridges round it. Dr. c. 30 cms.
921. MM I (Fig. 20).—Rim of similar fabric and shape to 920, but slightly thinner. Two ridges remain round the neck. Dr. c. 36 cms.
- a. Part of a base with two ridges round it and the beginning of a handle in similar fabric seems likely to belong to this vessel. Too little remains to tell the diameter.

922. MM I (Fig. 20).—A number of sherds and several vertical handles of similar fabric to 920, but thinner in the wall and without ridges.

- a. Part of a base which seems to match these, with a single ridge round it. No rim could be assigned to this vessel. Too little remains of the base to tell its diameter.

#### V. *Pithoid Jars.*

923. MM I (Fig. 20).—Part of side of flower-pot. Fabric similar to 902, but wall thinner. The base seems either not to have been flat, or else to have had a double angle. A small hole is pierced through just above the existing turn.

924. MM I (Fig. 20).—Rim of pithoid jar. Fabric similar to 920, but wall thinner. The rim is plain, but slightly turned back outwardly. At one point it has been pulled out to form a spout. It is impossible to tell the diameter.

- a. A horizontal handle in similar fabric seems possibly to belong to the same vessel.

#### VI. *Straight-rimmed.*

925. EM III-MM I (Fig. 20).—Rim of straight-sided pithos in coarse reddish-brown clay with smoothed surface. The inside is much worn. The rim is quite plain and rather square in profile. Dr. c. 42 cms.

- a. Part of a base of similar fabric and thickness which must belong either to the same vessel or to 926. Dr. c. 27 cms.

926. EM III-MM I (no illustration).—Rim of pithos of similar fabric and shape to 925, but with the inner surface less worn. Dr. c. 39 cms.

#### VII. *Oval Larnax.*

927. EM III-MM I (Fig. 20).—Rim of oval larnax. Fabric similar to 920, but rather less coarse. Shape of rim similar to 925 in profile.

- a. Part of a base which seems to belong to the same vessel.

#### VIII. *Square-cornered Larnakes.*

928. MM (no illustration).—Many fragments from a square-cornered larnax with vertical handles in yellowish, gritty clay, grey at the core. Shape of rim similar to 925 in profile. All the sherds much worn.

929. MM (no illustration).—Many fragments from a square-cornered larnax of similar fabric and shape to 928, but with the clay burnt redder and the wall slightly thinner.

#### IX. *Circular Lids.*

930. MM I (no illustration).—Fragments from several flat, circular lids which seem to have had one or more loop handles above. The clay is similar to that of 916-18, and on one there are traces of lines in dark paint.

- a. One fragment of similar lid in red clay like that of 920.

#### X. *With Moulded Band with Fish-bone Incision.*

931. LM I (no illustration).—Fragment of pithos in coarse yellowish clay with wide moulded band incised with fish-bone pattern.

#### XI. *Overhanging Rim.*

932. Archaic (no illustration).—Rim of pithos in hard red ware, which turns out at a right angle at the top and then again farther out, giving a square profile and overhanging the shoulder.

*Anthropomorphic and Zoomorphic Vessels.* 1000.

(Plate 13.)

There is only one vessel from Trapeza which can certainly be assigned to this class. This resembles four specimens from Koumasa,<sup>1</sup> but with minor differences: two seem to represent men rather than women, one has no opening in the shoulder, and is presumed to have had one in the head which is missing; two bear dark on light decoration, and none possess any knob on the shoulder which is closed. It also recalls a larger example from Mokhlos,<sup>2</sup> which is more realistically modelled and has openings in the breasts as well as the head. Furthermore, as Frankfort has pointed out,<sup>3</sup> the type has Syrian analogies, and there is even a parallel from as far East as Shah Tepe near Damghan.<sup>4</sup> The vessels from Crete all appear to belong to the EM III period,<sup>5</sup> and the Trapeza one is, from its decoration, almost certainly of this date. The use to which they were put is more doubtful. Evans considers that the rope-like excrescences round the shoulders of those from Koumasa represent snakes, and that they consequently provide the first indication of a domestic snake cult,<sup>6</sup> but Xanthoudides sees in these only a rudimentary attempt to indicate the arms of the figures. The manner in which the coils continue round the back of the neck certainly suggests snakes, and on the best-preserved specimen there is a further coil round the neck itself, which on Xanthoudides' theory has to be explained as some sort of necklace. On the other hand, there is no doubt that on the Mokhlos one it is arms which are intended, since the hands are clearly shewn holding the breasts, and the same attitude is implied on the others, including that from Trapeza. It is possible that there was actually some confusion in the minds of their makers, who may have found it too complicated to reproduce snakes as well as arms, but if this is admitted, their connection with a snake cult must also be allowed. Whatever their purpose, they form a distinctive group to which the present example is an interesting addition as forming a link between the southern and eastern examples.

*I. Vase in the Shape of a Woman.*

1001. EM III (Pl. 13).—Vase representing a female figure in buff ware with a dark surface wash and traces of linear decoration in white paint: the whole surface is much worn. The head is roughly shaped, with a flat top and hardly any indication of features. The neck is rather long and tilted backwards. On the right shoulder there is an opening finishing in a short collar, and this is balanced on the left by a plain knob. An applied strip of clay encircles the top of the body,

<sup>1</sup> *VTM* p. 12 Pls. II and XIX 4137-9, 4993.

<sup>2</sup> *Mochlos* p. 64 Figs. 32, 34 XIII g.

<sup>4</sup> *Acta Archaeologica* VI p. 32 Fig. 53 a.

<sup>5</sup> Xanthoudides puts two of the Koumasa vessels to EM II, but this seems too early.

<sup>6</sup> *P of M* IV p. 163.

<sup>3</sup> *Studies* II pp. 106, 167.



but finishes just short of the breasts, which are represented by two small lumps. Below this the sides curve slightly inwards to the base, which is flat and circular. Height 9.3 cms.

### F. Seals.

(Plate 14, Fig. 21.)

Fifteen seals (1-15), a scarab (16), a clay sealing (17) and an inscribed pot (18 and 645) were found in the cave, and another seal (10a) was recovered later by one of the local workmen from immediately outside. Eight of the seals are of ivory or bone (6-11, 13) and the remainder of stone. The bottle shape (1-5), the animal and bird carvings (7-10), the cones (10a-12) and the three-sided prism (15) are of types already known, and the scarab is of an ordinary Egyptian class, but 6, 13 and 14 are more unusual. Curiously enough, the cylinder engraved at either end, which is the commonest form in the Messara, and also known in East Crete, is unrepresented.

Owing to the rarity of parallels from stratified sites, it is extremely difficult to date these seals closely. Only five EM seals come from pure deposits: an ivory cylinder from Tomb VI at Mokhlos, where all the early objects belonged to EM II, two signets from Sphoungaras found with pottery of the same period, and two others from an EM III level on the town site at Mokhlos.<sup>1</sup> None of these entirely resembles the Trapeza specimens, although the design on one of the Sphoungaras signets is similar to that on 5 and 7, and the horizontally pierced rings at the top of those from Mokhlos may be compared with that on 6.

The bottle shape (1-5) is generally considered to be characteristic of EM III, although derived from an earlier type.<sup>2</sup> The design on 1 recalls that on an ivory cylinder from Agia Triadha,<sup>3</sup> but in general effect rather than in detail. The spider sign on 2 is already known on primitive pictographic seals, and is found in a slightly modified form on prisms with hieroglyphs of Class A:<sup>4</sup> it should thus belong to the transitional EM III-MM I period. The fact that it is made of rock crystal rather than steatite also argues that it is not of very early date,<sup>5</sup> and the same is true of 4 and

<sup>1</sup> *Mokhlos* pp. 54 and 108 Fig. 24 VI 26. *Sphoungaras* p. 52 Fig. 25. (It is not absolutely clear from the text that there was no intrusive EM III element in the stratum where these were found.) *AJA* 1909 p. 279 Fig. 3. Evans would also include a signet and a curved cylinder from Tomb II at Mokhlos as EM II (*P of M I* pp. 83 and 94), but there was one EM III jug in this tomb, and the signet resembles those from the town site, quoted above as EM III, while the coil pattern on the cylinder looks almost later.

<sup>2</sup> *P of M I* p. 121. *Scripta Minoa* p. 120.

<sup>3</sup> *Annuario XIII-XIV* p. 48 Fig. 71.

<sup>4</sup> *Scripta Minoa* p. 212 sign 85.

<sup>5</sup> *P of M I* p. 199. But the bottle shape has already been found in hard stone (*Scripta Minoa* p. 120).





FIG. 21.—SEALS.

Scale, 2 : 3.

of the limestone example 3, on both of which the faces are too much worn for the designs to appear distinctly. The shape and material of 5 are so similar to those of the miniature vases, *Stone* 27-33, that when it appeared it was at once hailed as a *ποτηράκι*. The design which it bears recurs

frequently on all types of seal between EM II and MM I,<sup>1</sup> and perhaps shews connections with North Syria and Anatolia, where it seems to have an even longer history.<sup>2</sup> 6 is possibly a pendant rather than a seal, but the hole in its lower part is inexplicable unless it was intended in some way for the attachment of a bezel.

Seals in the shapes of animals or parts of animals are common, particularly in the Messara, and seem as a rule to date from EM III.<sup>3</sup> They are generally held to shew Egyptian influence,<sup>4</sup> although also possessing Syrian parallels,<sup>5</sup> and the monkey on 7 is certainly rather Egyptian-looking.<sup>6</sup> This seal is comparable to one from Platanos formed like a squatting ape,<sup>7</sup> but its workmanship is far more skilful. The surface of its ivory is worn, and its outlines consequently blurred, but it is still a thing of remarkable beauty and delicacy. Its design is of the same type as that on 5 (see note 2). The exact animal represented by 8 is obscure: it might equally well be a dog or some small rodent. The holes which have been cut for its eyes may once have been inlaid, although no seal or amulet on which such inlay remains has yet come to light.<sup>8</sup> The grid pattern on its base is similar to that on 11, and perhaps shews the origin of the more complicated engravings on two specimens from Platanos.<sup>9</sup> The bird (9) recalls a seal from Koumasa<sup>10</sup> and another from Agios Onouphrios<sup>11</sup> which Evans brings into relation with an example from the Hauran, but is simpler in conception, and has for stamp a mere series of parallel lines. 10 is in poor condition below, and shews no trace of engraving, but since the double-headed form is characteristic of amulets rather than of seals, it is possible that it never had any.<sup>12</sup>

<sup>1</sup> *VTM* Pl. VIII 681, 652, Pl. XIV 1094, Pl. XV 1084. *Ag. Onouphrios Deposit* Figs. 86, 87. *Annuario XIII-XIV* p. 49 Fig. 75. *Sphoungaras* p. 52 Fig. 25. 'Εφ. 'Αρχ. 1907 Pl. 6, 8.

<sup>2</sup> *Hittite Seals* p. 32 Pl. V 124-31, Pl. VII 216; Contenau, *Manuel d'Archeologie* p. 814 Fig. 576; *OICP XXX* p. 348, Fig. 272; *Schliemann's Sammlung* p. 254, 6434; *Ag. Onouphrios Deposit* p. 133 Fig. 136 (Mould from Maconia); Petrie, *Buttons and Design Scarabs*, p. 3 Pl. IV (from Bismya and Aleppo); *Phil. Mus. Journ.* 1932-3 p. 357 Pl. XCI (Hissar I) and Pl. CVII (Hissar II). The same design appears as far apart as Susa (Contenau, *Manuel d'Archeologie* pp. 363 and 433 Figs. 268, 269) and Thessaly, *Dhimini Sesklo* p. 342 Fig. 272, but the most striking proof of its origin lies in the fact that it is first found in Egypt on button seals of the VIIth-VIIIth Dynasties, which, as Petrie has shown, are themselves of North Syrian ancestry (Petrie, *loc. cit.*; cf. also Frankfort, *JEA* 1926 *Egypt and Syria in the First Intermediate Period*). It may, of course, have come to Crete via Egypt.

<sup>3</sup> *P of M I* p. 117.

<sup>4</sup> *VTM* p. 129.

<sup>5</sup> *P of M I* p. 119.

<sup>6</sup> Cf. *Abydos II* p. 25 Pl. VI 50-61, 64, 65, although these are squarer in the jaw and usually have their fore-paws placed on the ground in front, which hunches up their bodies more in the manner of the Platanos example (see note 7). Demargne seems to consider that 7 has Syrian connections. (*Rev. Arch.* 1937 p. 244.)

<sup>7</sup> *VTM* p. 114 Pl. XIII 1040.

<sup>8</sup> Cf. *VTM* p. 122 Pl. XV 233 and 1147.

<sup>9</sup> *VTM* Pl. XIV 1027 and 1028.

<sup>10</sup> *VTM* Pl. IV 516.

<sup>11</sup> *Ag. Onouphrios Deposit* p. 108 Fig. 82.

<sup>12</sup> Cf. *VTM* Pl. XV 1146 and 1026.

The high conical type (10a-12) again cannot be certainly attributed to an earlier date than EM III. 10a, although of no artistic merit, is a unique and interesting piece. It is formed from a large tooth which has been cut off square at the bottom, roughly ground down above, and pierced horizontally and vertically, but is otherwise in its original condition, and still has some of its enamel adhering. It is thus of the most primitive execution imaginable, but it seems to shew how much of the EM 'ivory' may have been obtained (although the idea of using ivory and bone at all for seals must have been derived from Egypt or Syria<sup>1</sup>), and also the origin both of the curved cylinders which have been so frequently found on other sites<sup>2</sup> and of the true conical class exemplified in 11 and 12. Its nearest parallel is from Platanos.<sup>3</sup> 11 is fashioned with more care. In shape it has many counterparts from the Messara,<sup>4</sup> but the four-legged animal on its base is too indeterminate for comparison with other designs. It has a small silver rivet through its side and the hole from which another has dropped, but these seem to have been purely decorative, and not to have been used to join an ancient break, as was the case with a copper rivet through the cylinder already referred to (p. 95, n. 1) from Mokhlos. 12, of green steatite, is of exactly the same shape as 11. It resembles a seal in the Candia Museum said to be from Knossos,<sup>5</sup> but has a more interesting parallel from Tel Abu Gelgel, which Hogarth considers unusual in Syria and possibly itself of Aegean origin.<sup>6</sup>

13 is an unusual type, but seems to be best regarded as a modification of the conoid class, which is sometimes square in section.<sup>7</sup> Its face is comparable to that of 5 and 7. 14, in black steatite, is certainly not earlier than EM III,<sup>8</sup> and is more likely to date from MM I, since it does not correspond to any well-known EM shape, and its design is similar to that of a clay seal from an early house at Gournia,<sup>9</sup> as well as resembling that of the sealing 17 (see below), both of which seem best attributed to that period.<sup>10</sup> The prism (15) should be of the same date, although this type is

<sup>1</sup> *P of M I* p. 83.

<sup>2</sup> In particular *P of M I* p. 94 Fig. 64 from Mokhlos (*Mochlos* p. 34 Fig. 12 II 41).

<sup>3</sup> *VTM* p. 115 Pl. XIV 1028.

<sup>4</sup> *VTM* Pl. IV 518, 800 Pl. XIII 1116, 1052, etc.

<sup>5</sup> 'Εφ. 'Αρχ. 1907 p. 150 Pl. 6, 7.

<sup>6</sup> *Hittite Seals* pp. 32 and 62 Pl. V 136.

<sup>7</sup> *VTM* Pl. XIII 1035. Two rather similar seals, with the design too much worn to be distinguishable, were recovered by Sir Arthur Evans in 1896.

<sup>8</sup> Cf. *Mochlos* p. 70.

<sup>9</sup> *Gournia* p. 54 Fig. 28, 4 a. This seal is unique in having a dark surface wash, and seems itself to be an imitation of black steatite. The design may, however, go back to EM II, since it is found on a limestone cylinder from Mokhlos which was associated with sherds of that period (*Mochlos* p. 109 Fig. 54).

<sup>10</sup> This design also occurs on a bronze stamp from Thermi (Lamb *Thermi* p. 171 Fig. 50 Pl. XXV), which unfortunately was not stratified, and Miss Lamb connects it with that on the Anatolian seals already quoted as parallels to 5 and 7 (see p. 97, n. 2).

said to make its first appearance in EM times.<sup>1</sup> It should be compared with a similarly shaped seal said to be from the adjacent site of Koprana, which also has on one face a dog with its head turned back,<sup>2</sup> and with another from Gortyna with a goat, a single star, and a potter.<sup>3</sup> The most conclusive reason for its dating is the similarity of the dog to the animal scratched on the Khamaizi pot (645 and 18 below) which, as has been shewn, must belong to MM I.

The scarab (16) is undoubtedly an Egyptian import. In general style it shews the careful naturalism which is characteristic of the beginning of the XIIth Dynasty,<sup>4</sup> and there is nothing in its detail to vitiate this dating. The front of its *clypeus* is unfortunately broken, but the three lines on its back, and its single girdle with a modified curl in front, as well as its rather square head, are all features common at that time.<sup>5</sup> The scrolls on its base have many Egyptian analogies, although less symmetrically arranged than is usual.<sup>6</sup> They belong to a type of design which may originate rather before the XIIth Dynasty, but which is most frequent during that period, and has a fairly prolonged later existence.<sup>7</sup> Nine XIIth Dynasty scarabs have previously been found in Crete,<sup>8</sup> but the present example is the best which has as yet come to light: none are from the East of the island, but one in amethyst from the Diktaian Cave, engraved with Minoan hieroglyphs of Class A,<sup>9</sup> affords an interesting topographical parallel to that from Trapeza, although another from Platanos stylistically comes nearer to it.<sup>10</sup> In date it must be placed about 2000 B.C., and therefore belongs to the MM I deposit in the cave.<sup>11</sup> Since seals were probably buried with the dead to whom they belonged rather than brought as offerings, and since there is some evidence that the latest interments are of the EM III-MM Ia period,<sup>12</sup> it should be rather earlier than the fully developed MM I pottery, but this, as has been pointed out above, is itself contemporary with MM Ib-II at Knossos.<sup>13</sup>

The sealing (17) may perhaps come from the side of some large jar or

<sup>1</sup> *P of M I* p. 123; *Scripta Minoa* p. 130.

<sup>2</sup> *JHS* VII Pl. IX 3. The dog here faces the opposite way.

<sup>3</sup> *Loc. cit.* Pl. IX 4. The star occurs in Hieroglyphs of Class A (*Scripta Minoa* p. 221 sign 108).

<sup>4</sup> Cf. Newberry *Scarabs* p. 71.

<sup>5</sup> Petrie *Scarabs and Cylinders with Names* pp. 5 and 6.

<sup>6</sup> Petrie *op. cit.* Pl. VII 34-51. The closest resemblances are, however, to Newberry *op. cit.* Pl. XVIII 26 and 27 and to *Illahun, Kahun and Gurob* Pl. VIII 73.

<sup>7</sup> Petrie, *Buttons and Design Scarabs* p. 14.

<sup>8</sup> Pendlebury *Aegyptiaca* Pl. I pp. 7, 9, 11, 15, 29, 35.

<sup>9</sup> *P of M I* p. 199 Fig. 147.

<sup>10</sup> *VTM* Pl. XV 1058.

<sup>11</sup> Cf. *P of M I* p. 202.

<sup>12</sup> Cf. the section on *Pithoi* above. The fact that so few MM I seals occurred also supports this idea.

<sup>13</sup> The Diktaian scarab is also attributed to MM I by Evans (*P of M I* p. 199).

pithos, but the clay in which it is stamped is too much broken for this to be certain. Its design is almost exactly paralleled by that painted on the side of an MM Ia jug from the Kouloura Houses,<sup>1</sup> which Evans connects with the rayed solar symbol of a later (LM III) mould from Sitia.<sup>2</sup> Sealings are not common until MM II and III, but some of the preceding period have occurred at Knossos,<sup>3</sup> and even if the above comparisons seem far-fetched, there is every reason to suppose that the present example belongs to MM I, since stylistically it can hardly be earlier, and the rarity at Trapeza of finds of a subsequent date makes it unlikely that it should be later.

The impression (18) on the base of a small MM I vase (645) has already been described above p. 77.

#### I. *Bottle-shaped.*

1. EM III (Pl. 14, Fig. 21).—Bottle-shaped seal in green steatite pierced horizontally through the neck and vertically from above. Curvilinear design, deeply cut. From  $\Delta$  6. 0.60–0.80.
2. EM III–MM I (Pl. 14, Fig. 21).—Bottle-shaped seal in rock crystal pierced horizontally through the neck, but with the top broken off at the level of the piercing. Design of spider, considerably worn. From  $\Delta$  4. 0.40–0.60.
3. EM III–MM I (Pl. 14, Fig. 21).—Bottle-shaped seal of variegated limestone pierced horizontally at the top. Face too much worn for design to be properly determined. From  $\Delta$  7–11. 0–0.30.
4. EM III–MM I (Pl. 14, Fig. 21).—Bottle-shaped seal of rock crystal, pierced horizontally through its upper part, but with the top broken off at the level of the piercing. Too much worn for design to shew. From  $\Delta$  7–11. 0–0.30.
5. EM III (Pl. 14, Fig. 21).—Bottle-shaped seal of green steatite doubly pierced as 1. Design of a cross with chevrons filling the four quarters, deeply cut. From  $\Delta$  17. Hole. 0.30–0.60.

#### II. *Signet or Pendant.*

6. EM III (Pl. 14, Fig. 21).—Seal or pendant in bone with a roughly segmented cylindrical ring, pierced horizontally, at the top, and three irregularly shaped balls, one below the other, dependent from it. The lowest ball is much the largest, and has a hole cut into its base, perhaps for the attachment of a bezel. Whole surface rather worn. From  $\Delta$  7–11. 0–0.30.

#### III. *Animal-shaped.*

7. EM III (Pl. 14, Fig. 21).—Seal in ivory in the shape of a monkey in a sitting attitude supported by its own tail on top of a ball, which is flattened out below. The fore-paws rest on the knees, and the carving is extremely delicate, since all the limbs and the tail, which is worn through in the middle, stand out separately from the body. Horizontal piercing through the back of the neck. Design similar to that on 5, but enclosed in a circle. Whole surface rather worn. From  $\Delta$  1–6. 0–0.20.
8. EM III (Pl. 14, Fig. 21).—Seal in bone in the shape of an animal's head. The eyes are hollowed and there is a piercing through the lower part of the jaw. Grid-like design of crossing parallel lines. From  $\Delta$  7–11. 0–0.30.

<sup>1</sup> *P of M* IV p. 94 Fig. 61.

<sup>2</sup> *Ibid.* IV 94 Fig. 62.

<sup>3</sup> *Ibid.* I p. 201 Fig. 151.

9. EM III (Pl. 14, Fig. 21).—Seal in bone in the shape of a bird. The stamp is oblong and bears a simple design of parallel lines. From  $\Delta$  7-11. 0-0.30.
10. EM III (Pl. 14, Fig. 21).—Seal or amulet in ivory with a bottle-shaped body rather flattened laterally and two monkeys' heads back to back above. Horizontal piercing between the two heads. No design appears on the base, but its surface is much worn. From  $\Delta$  16-19. 0-0.50.

IV. *Conical.*

- 10a. EM III (Fig. 21).—Conical seal formed from a tooth which has been cut off square below and slightly rounded above, but is otherwise in its original shape, and still has some of its enamel left at the sides. Horizontal piercing through the top met by vertical piercing from above. Roughly oblong base with a small hole in the centre, probably caused by a division in the tooth itself. Grid-like design similar to that on 8. This seal was found outside the cave, 15 metres West.
11. EM III (Pl. 14, Fig. 21).—Conical seal in bone doubly pierced above as 10a. Between the horizontal piercing and the base there must once have been two ornamental silver rivets: one remains, but the other is lost. Roughly oblong base with an indeterminate design apparently of some four-legged animal. From  $\Delta$  6. Hole. 1.00-1.30.
12. EM III (Pl. 14, Fig. 21).—Conical seal in green steatite doubly pierced above as 10a and 11. Design of a single spiral whorl, deeply cut. From  $\Delta$  7. 0.30-0.60.
13. EM III-MM I (Pl. 14, Fig. 21).—Low conical seal in bone flattened at the top and roughly diamond-shaped in section, pierced diagonally from the top at either side. Design of chevrons and hatched triangles. Two other examples of this shape with indistinguishable design were recovered by Sir Arthur Evans in 1896. From  $\Delta$  17. 0.80-1.10.

V. *Gable-shaped.*

14. MM I (Pl. 14, Fig. 21).—Seal in black steatite, gable-shaped above, but roughly circular below, pierced horizontally at the top. Design of a cross with dots in the four quarters, very deeply cut. From  $\Delta$  15. 1.00-1.30.

VI. *Prism Seal.*

15. MM I (Pl. 14, Fig. 21).—Triangular prism seal in green steatite pierced from end to end. On the facets there are (a) a dog with its head turned back over its shoulder, (b) a goat with its head in a similar position and a square object above its hind-quarters, (c) four revolving stars, one with six, two with seven, and one with eight points. All are very deeply cut. From  $\Delta$  19. 0.80-1.10.

VII. *Egyptian Scarab.*

16. Early XIIth Dynasty (Pl. 14, Fig. 21).—Egyptian scarab of XIIth Dynasty type. The front of the *clypeus* is broken off, but the head appears to have been square. There is a modified curl on the *prothorax*, a single girdle line, and three lines down the centre of the *elytra*. The legs are merely hatched, not feathered. On the face a design of interlocking scrolls asymmetrically placed. From  $\Delta$  16-19. 0-0.50.

VIII. *Clay Sealing.*

17. MM I (Pl. 14, Fig. 21).—Clay sealing apparently from the side of some large vessel of coarse fabric. Design of a cross enclosed by a circle, both raised, but outlined by impressed dots: in the four quarters there are raised bosses. From  $\Gamma$ . 0-0.50.

IX. *Impression on a Vase.*

18. MM I (Pl. 14, Fig. 21).—Impression on the base of a 'Khamaizi' vase. Design of animal *passant regardant*, a libation vase and two S scrolls.

G. *Metal.*

(Plate 15, Fig. 22.)

Metal was comparatively rare in the cave, but gold, silver, bronze (or copper) and lead are all represented, so that in spite of the disturbed condition of the whole deposit, some idea of its original wealth may be obtained. It must be remembered that until the EM II period metal of any kind was practically unknown in Crete, so that the rapid spread of its use and the skill with which it was worked shew the receptiveness and ingenuity of the early inhabitants of the island.

I. *Gold.* The 1936 excavations yielded only nineteen fragments of gold, but two others had been found in the cave by Sir Arthur Evans in 1896, and considering the amount of robbery which the place must have suffered both in ancient and in modern times, it is to be inferred that it was once at least as rich as were the tombs of Mokhlos or the tombs of the Messara. All but three of the fragments recently recovered are too much crumpled and torn to be distinguishable. I 1 seems to belong to a class of pendant well represented at Mokhlos in the richer EM II–III tombs;<sup>1</sup> I 2 may come from a diadem of the kind shewn in *Mochlos*, Figs. 8 and 9, which Evans regards as the prototypes of the Mycenae death-masks,<sup>2</sup> or else merely have been used as a coating over a core of some perishable material; I 3 is more unusual, but is too incomplete to be regarded as a new type: on each there are traces of the common EM *repoussé* decoration.<sup>3</sup> The two pieces previously brought to light are both leaf-shaped, and may have formed part of ornamental sprays,<sup>4</sup> or else have been used as single pendants.<sup>5</sup> One is ornamented with embossed dots round the edges and down the centre, but the other is plain.

Goldwork of this sort seems, from the Mokhlos evidence, to have been most flourishing during EM II,<sup>6</sup> and in the Messara, too, one of the richest tombs must have been Kalathiana, which, from the other objects found there, seems to have fallen into disuse shortly after the close of this

<sup>1</sup> *Mochlos* p. 30 Figs. 8 and 9, II 15; p. 31 Figs. 10 and 11, II 19; p. 73 Fig. 43, XIX 19; p. 77 Fig. 20, XXI 13.

<sup>2</sup> *P of M I* pp. 97, 98.

<sup>3</sup> Cf. *Mochlos* p. 107; *VTM* p. 47.

<sup>4</sup> Cf. *Mochlos* p. 31 Figs. 10 and 11, II 24.

<sup>5</sup> Cf. *ibid.* p. 55 Fig. 25, VI 31.

<sup>6</sup> *Mochlos* pp. 104–24 (Tomb II) 70 (Tomb XIX). These two tombs belonged to the period of the Vasilike mottled ware: in Tomb VI, which was slightly earlier, gold occurred, but not in such profusion, although the deposit was comparatively untouched.



period.<sup>1</sup> There is, however, nothing to distinguish the jewellery of EM II from that of EM III, and gold ornaments persisted without any revolutionary variations in style throughout Minoan times.<sup>2</sup> The question of where the Minoans obtained their supply of gold and their knowledge of its working remains obscure, but if, as Frankfort suggests,<sup>3</sup> both were derived from the Caucasus region, this lack of development in technique may be explained by the fact that there the same types continued in use for a very long period, while in Crete the metal was too valuable to be wasted in experiment. The Trapeza fragments should probably all be assigned to within the limits of EM II and III, but rather owing to the preponderance of other finds of this date in the cave than from any intrinsic distinction in their appearance.

- I 1. EM II-III (Pl. 15).—Triangular pendant with traces of *repoussé* decoration: length 2.6 cms. From Δ 7-11. 0-0.30.
- I 2. EM II-III (Pl. 15).—Strip with traces of *repoussé* decoration: length 2.9 cms., width 0.7 cm. From Δ 7-11. 0-0.30.
- I 3. EM II-III (Pl. 15).—Oval fragment with raised dot and V: length 0.9 cm., width 0.6 cm. From Δ 16-19. 0-0.50.
- I 4. EM II-III (Pl. 15).—Sixteen crumpled fragments of gold leaf, from many strata.

Two leafed-shaped pendants were recovered from Trapeza in 1896 by Sir Arthur Evans: one with *repoussé* dots round the edges and down the centre, the other plain.

II. *Silver*. In Crete during the EM period silver was used far less than gold, although in the Cyclades it appears to have been the commoner metal.<sup>4</sup> It has been found in East Crete and in the Messara, and, like copper and bronze, occurs both in the form of ornaments and for more practical purposes.<sup>5</sup> The cutter or toilet knife II 1 is the only silver object found at Trapeza, with the exception of the rivet remaining in Seal 11. It is of exactly the same type as the copper or bronze implements III 1-6, and although its three rivet holes are unusual,<sup>6</sup> it cannot be separated from them,

<sup>1</sup> *VTM* p. 82 Pl. XLIII b. As well as at Mokhlos and in the Messara EM gold has been found at Sphoungaras (*Sphoungaras* p. 52 Fig. 4) Pyrgos (*Ἀρχ. Δελτ.* 1918 p. 166 Fig. 15) and possibly Palaikastro (*BSA* VIII p. 278).

<sup>2</sup> Cf. the EM gold from Tomb II Mokhlos with the MM I flower and pendant from Mallia (*P of M* IV p. 75 Figs. 47 and 48), the MM II spray from the Loom Weight deposit (*P of M* I p. 252 Fig. 189 b) and the MM III foil from the Temple Repositories (*P of M* I p. 469 Fig. 337). Mycenaean work carries on the same traditions.

<sup>3</sup> Frankfort *SAOC* No. 4 *Archaeology and the Sumerian Problem* Appendix II, where the connections with Troy, Ur, etc., are also given.

<sup>4</sup> *P of M* I p. 99; *VTM* p. 47.

<sup>5</sup> Ornaments are published in *Sphoungaras* p. 184 Fig. 107. *Mochlos* p. 54 Fig. 25, VI 25. *VTM* p. 67, 239 (this pin may be MM in date), a cup or bowl in *Mochlos* p. 52 Fig. 32, VI 8, three daggers in *VTM* p. 47 Pl. XXIX b 212-14, and nails in *VTM* p. 107.

<sup>6</sup> A larger specimen from Mokhlos also has three rivet holes (*Mochlos* p. 78 Fig. 44, XXI 20).



but must also be dated to EM II-III, for the occurrence of silver in Tomb VI at Mokhlos proves that it was used as early as the beginning of the former period, and the cutters themselves fell out of use at the close of the latter (see below).

Evans has suggested either an Anatolian or a Spanish source for Cretan silver,<sup>1</sup> but the former seems the more probable, since the type of *kantharos* which chiefly attests to its use in MM times,<sup>2</sup> and which has been found both in the original metal and in clay imitations, is closely paralleled by a similar imitation from Alishar II,<sup>3</sup> which must be too nearly contemporary with the Minoan vessels for the resemblance to be fortuitous. It is, however, possible that the origin of these particular vessels may lie farther East, and silver itself is known to occur within the Aegean area.<sup>4</sup>

- II 1. EM II-III (Pl. 15).—Silver blade from cutter or toilet knife, widening towards the cutting edge, which appears to have been straight but is broken at the corners. Three rivet holes, two side by side and one in the centre above: length 1.6 cms. From Δ 16-19. 0-0.50.

III. *Copper and Bronze.* Copper and bronze are poorly represented, and small objects, such as may be supposed to have escaped the eyes of previous robbers, predominate. The actual metal has not been analysed, but although copper is known to be more frequent in EM, and bronze in the later periods, there are as yet insufficient data for the distinction to afford any certain chronological evidence.<sup>5</sup> Ancient slag-heaps from copper-working have been found in Crete at Khrysokamina, near Pakhyammos and also on the island of Gavdhos,<sup>6</sup> so that although a knowledge of its use was probably due to alien influence at the beginning of the EM age,<sup>7</sup> the ore itself is likely to be native. Any tin alloy, on the other hand, seems to have come from abroad.<sup>8</sup>

The earliest implements from Trapeza appear to be the small cutters (III 1-7), and these are probably of pure copper. They seem to be divisible into two classes, one very short and square (III 1-6), and the other longer and more flaring (7). They presumably all once possessed handles, of ivory, bone, or wood, comparable to that of III 1, which were attached

<sup>1</sup> *P of M* II p. 169 n. 2; *ibid.* II p. 180.

<sup>2</sup> *Ibid.* I pp. 191-3.

<sup>3</sup> *OICP* XIX p. 112 Fig. 126. Alishar II is now dated to between 2200 and 1800 B.C.

<sup>4</sup> *E.g.* Lavreion and Siphnos.

<sup>5</sup> *Cf.* *VTM* pp. 26, 27; *Mochlos* p. 106 n. 1; Mosso *Dawn of Med. Civ.* pp. 105-10.

<sup>6</sup> *VTM* p. 27; *Gournia* p. 33; Mosso *op. cit.* pp. 289-93; *BSA* XIX p. 47 note.

<sup>7</sup> *Cf.* Frankfort *Studies* II p. 119. Copper was extremely rare before EM II. Its earliest known occurrence is an axe from a Neolithic house at Knossos (*P of M* II p. 14 Fig. 3f), which Evans regards as an import. There was also a fragment found at Mokhlos in an EM I deposit (*Mochlos* p. 93).

<sup>8</sup> *P of M* II p. 176.

by rivets.<sup>1</sup> Similar blades have been found at Mokhlos,<sup>2</sup> Palaikastro<sup>3</sup> and in the Messara.<sup>4</sup> That from Tomb VI at Mokhlos must belong to the beginning of EM II, and those from Tombs II and XIX may be equally early, although there were a few EM III finds in these two deposits. That from Palaikastro, however, was associated with 'a common yellow cup' and with an ivory seal which it is impossible to date earlier than EM III, and two of those from Platanos come from 'Tholos' B, which, from its pottery, does not seem to have been in use until this time. It is therefore clear that the type was common throughout both EM II and III, but it is equally certain that it died out before MM I, for it has never been represented in any pure deposit of that period. The use to which these implements were put is obscure. They were once termed single axes,<sup>5</sup> but the discovery of their handles at Mokhlos, Platanos<sup>6</sup> and now at Trapeza<sup>7</sup> makes this definition untenable; moreover, real single axes have been found at Agia Photia, Sphoungaras and Palaikastro,<sup>8</sup> which have a hole for the haft and no rivets. The specimens from the Messara have been described as amulets rather than real cutters,<sup>9</sup> owing to their smallness and thinness, but one of the present examples (III 1) shews distinct signs of wear at the edge, while, as Mosso points out<sup>10</sup> (although to prove a different theory), if they were votive, one would expect to find their practical prototypes, and none have yet been brought to light in Crete.<sup>11</sup> On the other hand, it is true that they have never been found unconnected with burials, although the lack of any small finds from EM house deposits makes this fact lose much

<sup>1</sup> Those on which only one rivet-hole now remains seem to be broken at the top, and may have had others to prevent the blade from swivelling. Cf. the silver one II 1 which has three, and two tweezer blades from Mokhlos (*Mochlos* p. 73 Fig. 44, XIX 25), which have two arranged one above the other instead of side by side. All these Trapeza examples are, however, too short to be termed tweezers.

<sup>2</sup> *Mochlos* Fig. 25, VI 29; Fig. 44, I 1, XIX 29, 30, 32, XXI 20; p. 36, II 50; p. 107.

<sup>3</sup> *BSA* VIII p. 296.

<sup>4</sup> *VTM* p. 28 Pl. XXIV b 1200, 1201 (Koumasa); p. 67 Pl. XXXIX b 1438 (Porti); p. 80 Pl. XLIII a (Dhrakonais); p. 82 Pl. XLIII b 1501, 1502 (Kalathiana); p. 108 Pl. LVI 1944, 1947, 1948 (Platanos). A similar type, but rather longer occurred at Gournia (*Gournia* p. 34 Pl. IV 28-31), but seems to have belonged to the Town Period and not to be a real parallel.

<sup>5</sup> Mosso *op. cit.* pp. 135-7.

<sup>6</sup> *Mochlos* p. 21, I 1 Fig. 44; and p. 36, II 50; *VTM* p. 108 Pl. LVI 1944. This handle is of copper, but made separately from the blade. Seager mentions one in which both are in one piece (*Mochlos* p. 107 n. 2).

<sup>7</sup> The handle and blade of this cutter were separate when found, but from the exact correspondence of the rivet-holes through each there is no doubt that they belong.

<sup>8</sup> *Gournia* p. 56; *Sphoungaras* p. 68 Fig. 41; *BSA Supp.* I p. 118 Fig. 100. (These may, however, all be MM I or even later.)

<sup>9</sup> *VTM* p. 28.

<sup>10</sup> Mosso *loc. cit.*

<sup>11</sup> One from Mokhlos is as long as 7.3 cms., but is still thin in the blade (*Mochlos* p. 78 Fig. 44 XXI 20). The largest from the Messara is 6.0 cms. (*VTM* p. 28 Pl. XXIV b 1200).

of its significance, and also, although not themselves known to occur in MM I, they are apparently shewn in the hieroglyphic script of that period,<sup>1</sup> which seems to argue that they may once have had a symbolic meaning. On the whole, however, it seems best to regard them as Seager did, as 'playing some part in the intricacies of the Minoan toilet,'<sup>2</sup> their most likely use being as razors. Similarly shaped cutters were found by Tsountas in Syros, with marble saucers sometimes containing traces of colouring matter, pounders, tweezers and obsidian razor flakes, and were regarded by him as having some connection with the toilet.<sup>3</sup> They are larger than the cutters from Trapeza, but paralleled in size by examples from Mokhlos and Koumasa.<sup>4</sup>

The handle (III 8) may be from a blade of the above type, or possibly from a larger knife. Its two halves are riveted together, but it is not shaped below so as to fit neatly over its blade, as is the handle of III 1, and it is pierced above as though for suspension. It seems to have a counterpart from Zakros,<sup>5</sup> and may also be compared with the bone object *Miscellanea* n below.

The two small pointed blades (III 9 and 10) are much worn, and are probably only the points of daggers. If this is the case, III 9 may well belong to the triangular type<sup>6</sup> which is otherwise unrepresented, and should therefore be dated to EM II or III.

The long dagger seems to begin almost as early as the triangular,<sup>7</sup> but to persist long after the latter had fallen into disuse, and eventually to develop into the more sword-like shapes. The three blades (III 11, 12 and 13) all seem to fall within the limits of MM I, and may be either of copper or bronze. The very heavy rib on III 11 is apparently a feature characteristic of South and Central Crete, for there are examples with it

<sup>1</sup> *JHS* XIV p. 305 sign 16. The symbol is frequent, and Evans considers it may represent an instrument for cutting leather. It is found in a short and a long form, both with round blobs to represent the handle.

<sup>2</sup> *Mochlos* p. 21. At Mokhlos they were most frequently associated with tweezers, but none of these were recovered at Trapeza.

<sup>3</sup> 'Εφ. 'Αρχ. 1899 Pl. 10, 30-34 and p. 109, Grave 179; p. 110, Grave 242; p. 111, Grave 322.

<sup>4</sup> See p. 105, nn. 1 and 4.

<sup>5</sup> *BSA* VII p. 143.

<sup>6</sup> Cf. *P of M I* p. 99. *VTM* pp. 25, 26. *Mochlos* p. 106, also for the nearest parallel Fig. 44, XIX 26.

<sup>7</sup> Cf. *VTM* p. IX. Two were found at Salame, where the sherds were all EM I and II (*VTM* p. 73, 1489, 1490) and some occurred in the EM ossuaries at Τα 'Ελληνικά (*BSA Supp. I* p. 116 Pl. XXIV D and E). Many also appeared during the first excavations in the Arkalokhori Cave, where the pottery was equally early (*BSA* XIX p. 44 Figs. 7 and 8), but this is uncertain evidence, since bronze swords and axes found on the same site in 1935 were much later in date (*P of M IV* 346) and some at least of those from the earlier dig should be contemporary.

from Koumasa, Platanos, Pyrgos and Teke,<sup>1</sup> but none from the East of the island. At the first of these sites two similar blades in silver were found, while at all four, Cycladic figurines occurred, and it seems possible that the type originated in the islands.<sup>2</sup> The rib was evidently a device for strengthening the blade,<sup>3</sup> which, being in comparatively soft metal, might otherwise double up under the impact of a blow, and for this reason it is not such an advanced development as it at first sight appears, and, owing to its obvious disadvantages, was later modified. Xanthoudides is probably right in assigning those daggers which shew it most distinctly to the transitional EM III-MM I period. III 12 greatly resembles three examples from Mokhlos,<sup>4</sup> one of which (from Tomb III) was stratigraphically dateable to MM I, and may also be compared with weapons from Gournia and Platanos.<sup>5</sup> It seems to be the most characteristic type of the time, and still to shew the influence of the earlier and broader shape in its spreading top. III 13 may be rather later. Its lengthened tang recalls that of a dagger from Khamaizi which Evans regards as belonging to the fully developed MM I style,<sup>6</sup> and is also comparable to those on two specimens from Platanos which are thought to post-date most of the Messara types.<sup>7</sup> It may be transitional to the tanged, square-shouldered shape, which is commonest in MM II.<sup>8</sup>

The nails (III 14-16) must have fallen from daggers similar to the above, and one was indeed found in III 12, but subsequently shaken loose. The number of rivets on these weapons seems to vary arbitrarily between two and four, and to give no clue for dating.

#### A. Cutters.

III 1. EM II-III (Pl. 15).—Small cutter or toilet knife. The blade widens towards the cutting edge opposite to the handle, and seems to have been worn down with use on one side. The handle is of bone, carefully shaped where it fits over the blade, and decorated with two incised girdling lines. There are two minute rivet holes through both blade and handle, which exactly correspond in position, and prove that the two belong to one another, although actually found separately: length 5.4 cms. From Δ 17. 0.50-0.80.

<sup>1</sup> *VTM* p. 26 Pl. XXIV 1175 etc. Pl. XXIX 1161 Pl. LV 1893, 1894, 1897. 'Αρχ. Δελτ. 1918 p. 165 Fig. 15. *Jahrbuch* 1933 p. 302 Figs. 13, 14. There is also an example from the Diktaian Cave which Evans regards as the prototype of ribbed LM swords (*P of M* IV p. 845 Fig. 826), but this is longer and narrower than the Trapeza specimen and may well be rather later in date (cf. p. 23).

<sup>2</sup> Cf. a blade from Amorgos ('Εφ. 'Αρχ. 1899 p. 189 Pl. 12, 6) and three (unpublished) from the same island in the Ashmolean Museum (catalogue nos. ΑΕ 240-42).

<sup>3</sup> Cf. *VTM* p. 26.

<sup>4</sup> *Mochlos* Fig. 45, III o, p. 40; XI 22, p. 61; XIII m, p. 65.

<sup>5</sup> *Gournia* p. 34 Pl. IV 51. *VTM* p. 107 Pl. LV 1886.

<sup>6</sup> *P of M* I p. 194 Fig. 141.

<sup>7</sup> *VTM* p. 107 Pl. LV 1902, 1930.

<sup>8</sup> *P of M* I p. 195.

- III 2. EM II-III (Pl. 15).—Blade similar to that of 1, but shorter and more square at the edge. Two rivet holes: length 1.5 cms. From Δ 16. Hole 0.30-0.60.
- III 3. EM II-III (Pl. 15).—Fragment of blade similar to 1. Two rivet holes in one of which part of the nail remains: length 1.1 cms. From Δ 16. 0.50-0.80.
- III 4. EM II-III (Pl. 15).—Blade similar to 2, but larger and with only one rivet hole remaining: length 1.9 cms. From Δ 19. 0.50-0.80.
- III 5. EM II-III (Pl. 15).—Blade similar to 2, but more elongated, and with only one rivet hole remaining: length 1.5 cms. From Δ 18. Hole 0.30-0.60.
- III 6. EM II-III (Pl. 15).—Fragment of blade similar to one or other of the above. One rivet hole remaining: length 0.9 cms. From Δ 19. 0.80-1.10.
- III 7. EM II-III (Pl. 15).—Blade of rather longer type than the above, with flaring sides and a slightly curved cutting edge. Two rivet holes in one of which the nail remains: length 3.8 cms. From Δ 17. 0.80-1.10.
- A similar blade, but with one rivet hole only, was found in the cave by Sir Arthur Evans in 1896.
- III 8. EM II-III (Pl. 15).—Bone handle made in two parts, which are riveted together by two nails down the centre. A hole is pierced through the top: length 3.5 cms. From Δ 17. 0.50-0.80.

#### B. Points of Blades.

- III 9. EM II-III (Pl. 15).—Small triangular blade which appears to be broken opposite the point. No rivet holes remain: length 2.4 cms. From Δ 19. Hole 0.30-0.60.
- III 10. EM II-III (Pl. 15).—End of pointed blade, broken opposite the point: length 2.8 cms. From Δ 15. 0.70-1.00.

#### C. Long Daggers.

- III 11. MM I (Pl. 15).—Dagger blade with straight sides and square shoulder rather damaged at one side. Very heavy outstanding medial rib. Two rivet holes: length 15.3 cms. From Δ 6. 0.60-0.80.
- III 12. MM I (Pl. 15).—Dagger blade with widened shoulder which curves in again at the top and has a slight nick in its transverse edge. Moderate medial rib. Four rivet holes: length 21.3 cms. From Δ 6. 0.20-0.40.
- III 13. MM I (Pl. 15).—Dagger blade with widened shoulder and short tang rather damaged at the end. No medial rib. Two rivet holes in which the nails remain: length 9.7 cms. From Δ 16-19. 0-0.50.

#### D. Nails or Rivets.

- III 14. MM I (Pl. 15).—Nail, square in section: length 1.5 cms. From Δ 20-22. 0-0.30.
- III 15. MM I (Pl. 15).—Nail, round in section: length 1.5 cms. From Δ 16-19. 0-0.50.
- III 16. MM I (Pl. 15).—Fragment, probably from nail: length 1.3 cms. From Δ 18. Hole 0.30-0.60.

IV. *Lead.* The lead bowl (IV 1) is a unique piece. It appears to be the first actual vessel made of this metal to be found in Crete, and is certainly the largest and heaviest object in it from any EM-MM I deposit,<sup>1</sup>

<sup>1</sup> Cf. *Mochlos* p. 36, II 47; p. 44, V m. Mochlos appears to be the only site of this date on which lead has been found.

although it is known to have been used in later times for rings,<sup>1</sup> figurines,<sup>2</sup> and even architectural fittings<sup>3</sup> such as the linings of the floor cists in the Magazines at Knossos. The shape of this bowl is unfortunately too simple to afford any clue as to its exact date. It was found in the stratum



IV. 1

FIG. 22.—LEAD BOWL.

Scale, 1 : 3.

Δ 6. 1.00–1.20 below some of the EM II cups (see Pottery 501–11), but lay close against the rock forming the West side of the cave, where it might easily have been pushed down by any disturbance. On the whole it seems best to assign it to the close of the EM period, but as a matter of opinion only.

IV 1. EM II–MM I (Pl. 15, Fig. 22).—Small lead bowl with thick flat base, outplayed sides curving up towards the top, and the rim rather bent and broken. Weight 148 gr.; diameter 5.5 cms., height 2.3 cms. From Δ 6. 1.00–1.20.

#### H. *Stone-Work.*

(Plates 16 and 17, Figs. 23, 24.)

The stone vases can be related most readily to those of Mokhlos, as one would naturally expect from other parallels, such as gold-leaf ornaments and bronze cutters or spatulae.<sup>4</sup> They can most of them be dated within the limits of EM II–III, and a number of them, judging from the fine materials and delicate workmanship, should be dated to the earlier period. A number of parallels to the finer vases come from EM II burials and confirm the impression. The stone vases from the tholos tombs of the Messara provide some material for comparison both with some of the earlier stone vases from Trapeza and with those few which by their material and workmanship indicate a later date.

There are four plain saucers (1–4) of slightly differing profile: 1 is of green steatite and resembles in shape one of the miscellaneous stone vases from Mokhlos<sup>5</sup> dated by Seager as EM II–III; 2 is of white marble, and in profile the rim slopes slightly downwards and outwards: judging from the material, it may have Cycladic parallels. 3 is like another of the

<sup>1</sup> *Sphoungaras* p. 69 Fig. 44.

<sup>2</sup> *P of M II* p. 540 Fig. 344.

<sup>3</sup> *Ibid.* I p. 456.

<sup>4</sup> Plate 15 III 1–6; cf. *Mokhlos* Fig. 44 XIX 29, 30, 32.

<sup>5</sup> *Ibid.* Fig. 47 M 1.

miscellaneous EM II-III vases from Mokhlos:<sup>1</sup> it is very thin, and, like the larger, thicker saucer (4) it is of striated marble.

Two bowls (5 and 6) of grey steatite and mottled limestone respectively, have a lip projecting outwards, and are like two bowls<sup>2</sup> from Tomb VI at Mokhlos, where no burials were as late as EM III.

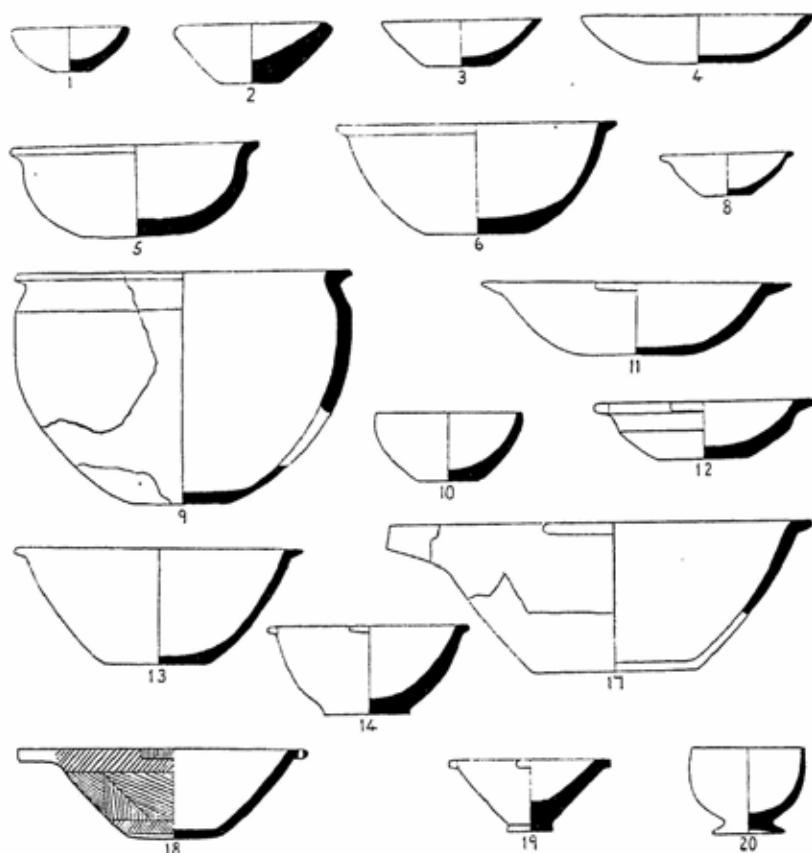


FIG. 23.—STONE VASES.  
Scale, 1 : 3.

A small gypsum bowl (8) has an outcurving rim, and in profile resembles a fine bowl in grey and white marble which is dated by Seager as EM II.<sup>3</sup>

A deep bowl of Egyptian alabaster (9) looks early; it has no exact

<sup>1</sup> *Mokhlos* Fig. 47 M 17.

<sup>3</sup> *Ibid.* Fig. 32 XIII e.

<sup>2</sup> *Ibid.* Fig. 22 VI 10 and 16.



parallel from Mokhlos,<sup>1</sup> but a deep bowl<sup>2</sup> with holes for suspension, which is somewhat similar, though it has no carination, comes from Tomb II, where only one jug from the early deposit could be dated as late as EM III.

A small, finely worked bowl of green steatite (10) should be EM II, judging from material and workmanship: a bowl similar in shape but of grey marble comes from Tomb XXI at Mokhlos.<sup>3</sup>

Two saucers (11 and 12) one of striated marble, the other of green steatite, with four rectangular lugs on the rim, have a parallel<sup>4</sup> from an early deposit at Mokhlos, from Tomb XIX, where all the objects except three were EM II. It is interesting to note that this type is also common in Early Cycladic burials in Syros,<sup>5</sup> where six contained traces of colouring matter.<sup>6</sup> Tsountas considers that their use was connected with the toilet.

A deeper bowl (13) of variegated striated marble, has two lugs and resembles one from 'Tholos' B at Koumasa:<sup>7</sup> another bowl of grey steatite (14) has a slight foot and four rim lugs which project less and are more roughly formed than those of 11 and 12. It somewhat resembles two bowls from Porti.<sup>8</sup>

A bowl of striated marble with three rectangular rim projections like those of 11 and 12 and a short trough spout (17), recalls a bowl from Syros similar in type, but mounted on a pedestal,<sup>9</sup> and it also has parallels<sup>10</sup> from Tomb IV and Tomb I at Mokhlos.

Another bowl (18) with open spout and three oval rim projections each pierced with two holes for suspension, is of green steatite and incised: its material and incisions resemble the lid with the sleeping dog from Mokhlos.<sup>11</sup>

Three bowls with distinct bases have been grouped together in the subsequent catalogue under section D: of these 19, which is of black steatite with small base and flaring sides, with roughly formed lugs on the rim, judging by material and workmanship, is one of the later of the stone vases, though perhaps no later than EM III.<sup>12</sup> 20, a pedestalled bowl of green steatite, is very thin and finely worked, and should be grouped in date with the earlier vases: in shape it is like the EM II-III pottery 'egg-cups': there is an example<sup>13</sup> very like it from Tomb XXI at Mokhlos, with a more graceful pedestal. The third vase in this section of the catalogue is a bowl

<sup>1</sup> Mr. W. B. Emery, from a sketch only, says it might be of IIIrd Dynasty date.

<sup>2</sup> *Mochlos* Fig. 7 II a.

<sup>4</sup> *Ibid.* Fig. 4 XIX 5.

<sup>6</sup> *Ibid.* 1899 p. 100.

<sup>8</sup> *Ibid.* Pl. XXXVIII 1052, 1063.

<sup>10</sup> *Mochlos* Fig. 18 IV 4 and 5 Fig. 4 I f.

<sup>11</sup> *Mochlos* Fig. 4 and 5 I i. Cf. green schist lamp with flat spout and one pierced ledge handle from Palaikastro *BSA* VIII p. 291 Pl. XVII 1.

<sup>12</sup> Seager *Mochlos* p. 101, use of soft black steatite in EM III.

<sup>13</sup> *Mochlos* Fig. 46 XXI 7.

<sup>3</sup> *Ibid.* Fig. 46 XXI 9.

<sup>5</sup> 'Ep. 'Apx. 1899 Additional Plate p. 88, 1.

<sup>7</sup> *VTM* Pl. XXII 746.

<sup>9</sup> 'Ep. 'Apx. 1899 p. 97 Fig. 27.



of the 'mustard-pot' type, of speckled grey steatite, with its knobbed lid (21 and 21a): the shape is not found before MM I.<sup>1</sup> This is a very graceful example, with a delicately curving profile.<sup>2</sup>

Another lid was found besides the knobbed lid 21a: this was like a very shallow inverted saucer (22), and had holes so that it could be tied to the vessel for which it was intended.

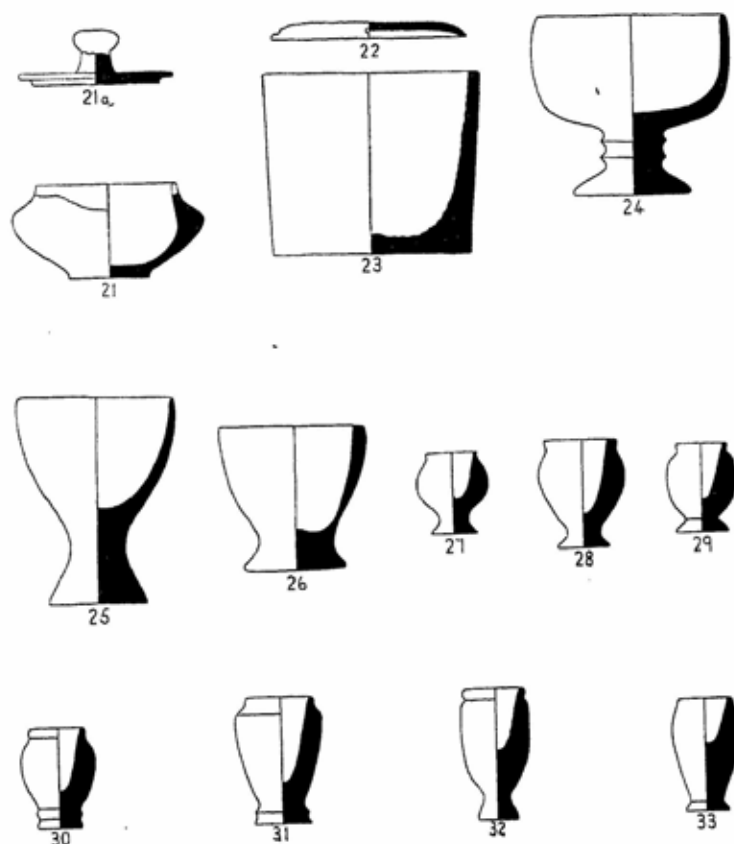


FIG. 24.—STONE VASES.  
Scale 1 : 3.

The straight-sided cup of black steatite (23), has parallels from Porti and is also no doubt MM I.<sup>3</sup> The pedestalled cup 24, of grey speckled

<sup>1</sup> Seager *Mochlos* pp. 38, 39.

<sup>2</sup> There is a very close parallel from Arvi with a similar profile. *Ag. Onouphrios Deposit* p. 121 Fig. 119.

<sup>3</sup> *VTM* Pl. XXXIX 1033, 1062. Cf. also *Mochlos* Fig. 32 XX 3 with slightly incurved sides, also of black steatite.

steatite with a grooved stem, is more like an EM II-III egg-cup than anything, but it has a curious square profile and a grooved stem. Two other pedestalled cups are of the well-known MM I 'egg-cup' shape; 25 is of crystal and has a tall base; 26 of marble with a lower and more typical base: a similar cup in grey steatite was found in 'Tholos' A at Agia Triadha.<sup>1</sup>

A number of charming miniature jars were found all of green steatite, of one type with minor variations (27-33): they all have bases: 32 has a tall pedestal and is slender; <sup>2</sup> 27, 28 and 29 have a more rounded body; the base in 30 and 31 is grooved, and 32 has a groove below the rim. They may be EM II or III, as similar examples were found in Tombs II and XIX<sup>3</sup> at Mokhlos, where they are probably EM II, but one comes from Tomb IV,<sup>4</sup> where the early burial was EM III: <sup>5</sup> these were with one exception of green steatite. Two somewhat similar miniature jars were found in the Messara, one in 'Tholos' A at Agia Triadha,<sup>6</sup> of grey steatite, and the other of the same material from Koumasa.<sup>7</sup> Neither of these has a high foot: the Agia Triadha jar has grooves below the rim; that from Koumasa is ridged at rim and base.

Judged as a whole, the stone vases of Trapeza, though they fall short of those of Mokhlos in variety of colour, and show no workmanship quite so delicate as that displayed by the finest of Seager's discoveries, are not unworthy to be ranked with them.

Various other objects in stone were found which had been of use for one purpose or another.

Obsidian blades (34 a-s) appeared in the cave in some number, as they have done at so many Early Bronze Age sites in Crete,<sup>8</sup> the Islands<sup>9</sup> and on the Mainland.<sup>10</sup> The length of the blades varied from 5.5 to 2 cms.

35 was evidently a weight: the top is pierced, so it was intended for suspension. It resembles in shape a muller from Gournia,<sup>11</sup> which is probably later.

The whetstones (36-40) are of various shapes, being just lumps of stone convenient for the purpose. Some whetstones from the Messara are more elaborate: they are long and narrow and pierced at each end.<sup>12</sup>

One of the pounders (41) was a naturally shaped piece of hard black

<sup>1</sup> *Annuario* XIII-XIV p. 32 Fig. 51.

<sup>2</sup> *Mokhlos* Fig. 7 II h.

<sup>3</sup> *Ibid.* Fig. 4 XIX 2, 6.

<sup>4</sup> *Ibid.* Fig. 18 IV 3.

<sup>5</sup> *Ibid.* p. 44.

<sup>6</sup> *Annuario* XIII-XIV Fig. 50 b p. 33.

<sup>7</sup> *VTM* Pl. XXII 848.

<sup>8</sup> *Ibid.* Koumasa Pl. XXIII 866 and p. 21; *Porti* Pl. XXXIX b; *Pyrgos* 'Αρχ. Δελτ. 1918 p. 166 and Fig. 15.

<sup>9</sup> *Syros* 'Εφ. 'Αρχ. 1899 p. 100; *Phylakope* *JHS Supp.* IV (1904) Pl. XXXVIII 22-7.

<sup>10</sup> *Blegen Zygouries* pp. 21 ff. 26, 47, and Pl. XX 5 p. 198. *Korakou* p. 104; *Goldman Eutresis* p. 206 Fig. 277.

<sup>11</sup> *Gournia* Pl. III 16.

<sup>12</sup> *VTM* Koumasa Pl. XXIII 787, 788.

limestone, convenient for the purpose; the other (42) of the same material, had been shaped into a large pestle, somewhat like the one from Gournia,<sup>1</sup> which was doubtless for use in one of the big mortars found in the houses there, though again the Gournia parallel is later. The Trapeza pestle does not taper upwards, whereas the Gournia example is shaped like an Indian club.

One of the two stone axes (43-4) is of the long type, and has an edge with the same curve as a Neolithic celt from Knossos.<sup>2</sup> The other is short and broad with a somewhat straighter edge.<sup>3</sup> The use of stone axes continued, of course, into the Bronze Age.<sup>4</sup>

There are two small objects (45 and 46) roughly pyramidal in shape, whose purpose is not clear; perhaps they are the rough blocking out of seal stones.

#### A. Bowls with a Plain Rim.

1. EM II-III (Pl. 16, Fig. 23).—Bowl of green steatite. Diameter 4.7 cms. Height 1.5 cms. Simple rim. Flattened base. From  $\Delta$  6. 0.40-0.60.
2. EM II-III (Pl. 16, Fig. 23). Bowl of marble. Diameter 6.1 cms. Height 2.0 cms. Bevelled rim. Flattened base. From  $\Delta$  4. 0.60-0.80.
3. EM II-III (Pl. 16, Fig. 23). Bowl of variegated striated marble. Diameter 6.3 cms. Height 1.5 cms. Simple rim. Flattened base. From  $\Delta$  16. Hole 0.30-0.60.
4. EM II-III (Pl. 16, Fig. 23).—Bowl of variegated striated marble. Diameter 9.5 cms. Height 2.1 cms. Slightly thickened, out-curving rim. Flattened base. Fragments from various levels.
5. EM II (Pl. 16, Fig. 23).—Bowl of grey steatite. Diameter 9.5 cms. Height 3.4 cms. Distinct lip. Flattened base. From  $\Delta$  6. 0.80-1.00 and hole 1.00-1.30.
6. EM II (Pl. 16, Fig. 23).—Bowl of variegated grey steatite. Diameter 10.8 cms. Height 4.3 cms. Distinct lip. Flattened base. From  $\Delta$  1-6. 0-0.20.
7. EM II (not illustrated).—Bowl of variegated grey steatite. Diameter c. 9.2 cms. Height ? . Rim as last. Very fragmentary, no base. From  $\Delta$  15-22. 0-1.10.
8. EM II (Pl. 16, Fig. 23).—Bowl of gypsum. Diameter c. 5.0 cms. Height 1.5 cms. Out-curving rim. Flattened base. Fragmentary. From various level.
9. EM II (Pl. 16, Fig. 23).—Bowl of Egyptian alabaster. Diameter 13.3 cms. Height c. 9.0 cms. Flattened rim. Carination below. Flat base. From various levels.
10. EM II (Pl. 16, Fig. 23).—Bowl of green steatite. Diameter 5.5 cms. Height 2.5 cms. Simple rim. Flattened base. From  $\Delta$  6. 0.40-0.60 and hole 1.00-1.30.

#### B. Bowls with Lugs but no Spout.

11. EM II (Pl. 16, Fig. 23).—Bowl of variegated marble. Diameter 10.5 cms. Height 2.5 cms. Four lugs projecting 1.0 cm. Flattened base. From  $\Delta$  7-11. 0-0.30 and  $\Delta$  7. 0.30-0.60.
12. EM II (Pl. 16, Fig. 23).—Bowl of green steatite. Diameter 7.5 cms. Height 2.0 cms. Four lugs projecting 0.6 cm. Flattened base. From  $\Delta$  6. 0.20-0.40 and 0.80-1.00.
13. EM II-III (Pl. 16, Fig. 23).—Bowl of variegated marble. Diameter 10.5 cms. Height 4.2 cms. Two lugs projecting 0.5 cm. Flattened base. From various levels.

<sup>1</sup> Gournia Pl. III 52.    <sup>2</sup> *P of M I* Fig. 15 a 1.    <sup>3</sup> Cf. *ibid.* Fig. 15 a 2 and 3.

<sup>4</sup> Gournia Pl. III 1, 2 and p. 31; Lamb *Thermi* pp. 185, 186; Goldman *Eutresis* pp. 202-3. Fig. 274.

14. EM II-III (Pl. 16, Fig. 23).—Bowl of grey steatite. Diameter 7.3 cms. Height 3.5 cms. Four lugs projecting 0.3 cm. Offset base. From  $\Delta$  1-6. 0-0.20 and 6. Hole 1.00-1.30.
15. EM II-III (not illustrated).—Bowl of variegated marble. Diameter c. 10.5 cms. Height ?. Simple rim. Large ledge. Very fragmentary. From  $\Delta$  18. 0.50-0.80.
- 16 a-c. EM II-III (not illustrated).—Fragments of at least three bowls of variegated marble. From various levels.

*C. Bowls with Lugs and Spouts.*

17. EM II-III (Pl. 16, Fig. 23).—Bowl of variegated marble. Diameter 14.5 cms. Height 6.0 cms. Spout projects 2.5 cms. Three lugs project 1.0 cm. Flattened rim and base. From various levels.
18. EM II (Pl. 16, Fig. 23).—Bowl of green steatite. Diameter 9.5 cms. Height 3.5 cms. Spout projects c. 1.5 cms. Three semi-circular pierced lugs projecting 0.5 cm. Flattened base. Linear incisions cover the outside of the body. From various levels.

*D. Bowls with a Distinct Base.*

19. EM III.—Bowl of black steatite. Diameter 5.8 cms. Height 2.8 cms. Small base. Flaring sides. Four lugs projecting 0.5 cm., flattened rim. From  $\Delta$  6. Hole. 1.00-1.30.
20. EM II-III (Pl. 16, Fig. 23).—Bowl of green steatite. Diameter 4.4 cms. Height 3.4 cms. Flaring base with a kick. Simple rim. From  $\Delta$  7. Hole. 0.60-0.90.
21. MM I (Pl. 16, Fig. 24).—Bowl of variegated grey steatite. Diameter 5.0 cms. Height 3.5 cms. Straight base. Carinated body. From  $\Delta$  16-19. 0-0.50.

*E. Lids.*

- 21 a. MM I (Pl. 16, Fig. 24).—Lid of variegated steatite belonging to the preceding vase. Diameter 5.5 cms. Height 2.2 cms. Knob handle and ledge. From  $\Delta$  16-19. 0-0.50.
22. EM II-III (Pl. 16, Fig. 24).—Lid of variegated marble. Diameter 7.2 cms. Height 0.6 cm. Four holes for attachment. From  $\Delta$  16-19. 0-0.50.

*F. Cups.*

23. MM I (Pl. 16, Fig. 24).—Cup of black speckled steatite. Diameter 8.0 cms. Height 6.7 cms. Straight sides. Flat base. Distinct marks of the tool inside. From various levels.
24. EM II-III (Pl. 16, Fig. 24).—Cup of variegated grey steatite. Diameter 7.0 cms. Height 6.7 cms. Ringed stem. Flaring base. From  $\Delta$  6. 0.80-1.00 and 1.00-1.20.
25. MM I (Pl. 16, Fig. 24).—Cup of crystal. Diameter 5.7 cms. Height 7.2 cms. Plain solid stem and base. From various levels.
26. MM I (Pl. 16, Fig. 24).—Cup of marble. Diameter 5.3 cms. Height 5.1 cms. Short flaring base. From  $\Delta$  6. 0.20-0.40.

*G. Miniature Jars.*

27. EM II-III (Pl. 16, Fig. 24).—Jar of green steatite. Diameter 1.8 cms. Height 3.0 cms. Short flaring base. Rim broken. From  $\Delta$  17. 1.10-1.40.
28. EM II-III (Pl. 16, Fig. 24).—Jar of green steatite. Diameter 2.5 cms. Height 4.0 cms. Short flaring base. Flat rim. From  $\Delta$  6. 0.60-0.80.

29. EM II-III (Pl. 16, Fig. 24).—Jar of green steatite. Diameter 2.7 cms. Height 3.5 cms. Short flaring base. Upright simple rim. From  $\Delta$  6. 0.40-0.60.
30. EM II-III (Pl. 16, Fig. 24).—Jar of green steatite. Diameter 1.9 cms. Height 3.6 cms. Moulded base. From  $\Delta$  12-15. 0-0.40.
31. EM II-III (Pl. 16, Fig. 24).—Jar of green steatite. Diameter 2.5 cms. Height 4.5 cms. Moulded base. Carinated shoulder.  $\Delta$  6. 0.40-0.60.
32. EM II-III (Pl. 16, Fig. 24).—Jar of green steatite. Diameter 2.4 cms. Height 4.9 cms. Narrow flaring base. Deep cut collar. From  $\Delta$  19. 0.80-1.10.
33. EM II-III (Pl. 16, Fig. 24).—Jar of green steatite. Diameter 2.0 cms. Height 4.1 cms. Short flaring base. Rim broken. From  $\Delta$  6. 0.60-0.80.

#### H. Obsidian Blades.

- 34 a-s. (Pl. 17).—Nineteen obsidian blades. Lengths vary from 5.5-2.0 cms. From practically every level.

#### I. Weight.

35. (Pl. 17).—Weight of limestone. Weight 238 grs. Diameter at the base 4.1 cms. Height 9.1 cms. Hole pierced near the top. From  $\Delta$  12. 0.70-1.00.

#### J. Whetstones.

36. (Pl. 17).—Whetstone of marble. Length 5.8 cms. From  $\Delta$  5. 0.20-0.40.
37. (Pl. 17).—Whetstone of schist. Length 6.6 cms. From  $\Delta$  6. Hole at 1.40.
38. (Pl. 17).—Whetstone of marble. Length 4.5 cms. From  $\Delta$  18. 1.10-1.40.
39. (Pl. 17).—Whetstone of marble. Length 14.6 cms. From  $\Delta$  17. 0.80-1.10.
40. (Pl. 17).—Whetstone of schist. Length 7.3 cms. From  $\Delta$  16. 0.50-0.80.

#### K. Pounders or Smoothers.

41. (Pl. 17).—Pounder of hard black limestone. Length 9.5 cms. From  $\Delta$  16-19. 0-0.50.
42. (Pl. 17).—Pounder of hard black limestone. Length 9.5 cms. From  $\Delta$  16-19. 0-0.50.

#### L. Axes.

43. (Pl. 17).—Axe of green stone. Length 9.1 cms. Long type. From  $\Delta$  7-11. 0-0.30.
44. (Pl. 17).—Axe of black limestone. Length 5.0 cms. Short square type. Bought. Said to be from the cave.

#### M. Unfinished Objects.

45. (Pl. 17).—Object of marble. Length 1.3 cms., perhaps the rough blocking out for a sealstone. From  $\Delta$  0.20-0.40.
46. (Pl. 17).—Object of marble. Length 2.5 cms., as the last. From  $\Delta$  5. 0.20-0.40.

#### I. Figurines.

(Plates 18 and 19, Fig. 25.)

Figurines occurred in stone, ivory, bone, and clay, and range in date from the Early Minoan II period until Middle Minoan I.

The most primitive examples were in stone (1-5), and so closely

parallel a well-known class from the Messara that it is evident that the type is an importation to Lasithi. This primitive class shows three varieties at Trapeza: (1) a long, almost rectangular flattened body with a rough indication of a head of which 1, the large marble figurine,<sup>1</sup> is a rough example, as it shews merely a groove for the neck, while 2 in crystal has the head well separated from the trunk by an indentation to show the neck;<sup>2</sup> (2) figurines which are widest at the shoulder and taper downwards to a point (3 and 4): the neck is indicated by an indentation and the roughly shaped head tapers upwards with a backward slope;<sup>3</sup> (3) a type similar to the last, but with small stumps to indicate the arms (5). The arm-stumps are paralleled in the Messara, where in one case<sup>4</sup> these occur on a figurine which is otherwise exactly like Type 2 at Trapeza. 5, which is very smoothly carved in white calcite, follows below the armpits the line of a rather thick-set human body in a long robe, and does not taper to a point when seen from the front, though it tapers from back to front. Another figurine<sup>5</sup> from 'Tholos' A at Agia Triadha with arm stumps shews a similar moulding of waist and hip line to 5, but comes to a point below. Variations in type 2 and 3 from the Messara are an incision to show the waist-line<sup>6</sup> and a very pointed beard or chin.<sup>7</sup> Another primitive type from the Messara, cloaked and cut off straight across the base, with hands folded on the breast,<sup>8</sup> had no parallel amongst the Trapeza finds. The examples of this type from Agia Triadha shewed indications of features, while those from Koumasa have no nose, eyes or mouth, but where the heads exist there is a very pointed chin or beard.

The primitive class represented at Trapeza by Nos. 1 to 5, with their parallels from the Messara, was noted by Professor Halbherr<sup>9</sup> and Sir Arthur Evans<sup>10</sup> as recalling Egypto-Libyan prehistoric figurines from Naqada:<sup>11</sup> of these the male figurines shew the very pointed chin or beard, while female figurines taper downwards to a point. The male figurines have a straight base, and an indentation above it sometimes right across,<sup>12</sup> sometimes only at each side.<sup>13</sup>

<sup>1</sup> Prof. Karo suggested that this might be a phallus.

<sup>2</sup> For this type cf. *VTM* Pl. XXXIX 172 Porti. Some figurines from the cave at Pyrgos very roughly approximate to this shape. 'Αρχ. Δελτ. IV 1918 p. 163 Figs. 14, 252, 253, 255.

<sup>3</sup> Cf. *Annuario* XIII-XIV Fig. 58 e; *VTM* Pl. IV 130 Koumasa; Pl. XXXIX 173 Porti; *Mochlos* Fig. 47 M 5.

<sup>4</sup> *Annuario* XIII-XIV Fig. 58 f.

<sup>5</sup> *Annuario* XIII-XIV Fig. 58 d.

<sup>6</sup> *Ibid.* Figs. 58 a, b, c.

<sup>7</sup> *Ibid.* Fig. 58 a, b, c, d.

<sup>8</sup> *Ibid.* Fig. 58 g-o; *VTM* Pl. IV 135, 128, 129.

<sup>9</sup> Halbherr, *M.R. Is. Lomb.* p. 251 and Pl. XI Fig. 27.

<sup>10</sup> Evans *P of M* I pp. 83, 84 Fig. 52.

<sup>11</sup> Petrie *Naqada* pp. 45, 46 and Pl. LIX.

<sup>12</sup> Petrie *Naqada* Pl. LIX, 3, 4.

<sup>13</sup> *Ibid.* Pl. LIX 2.

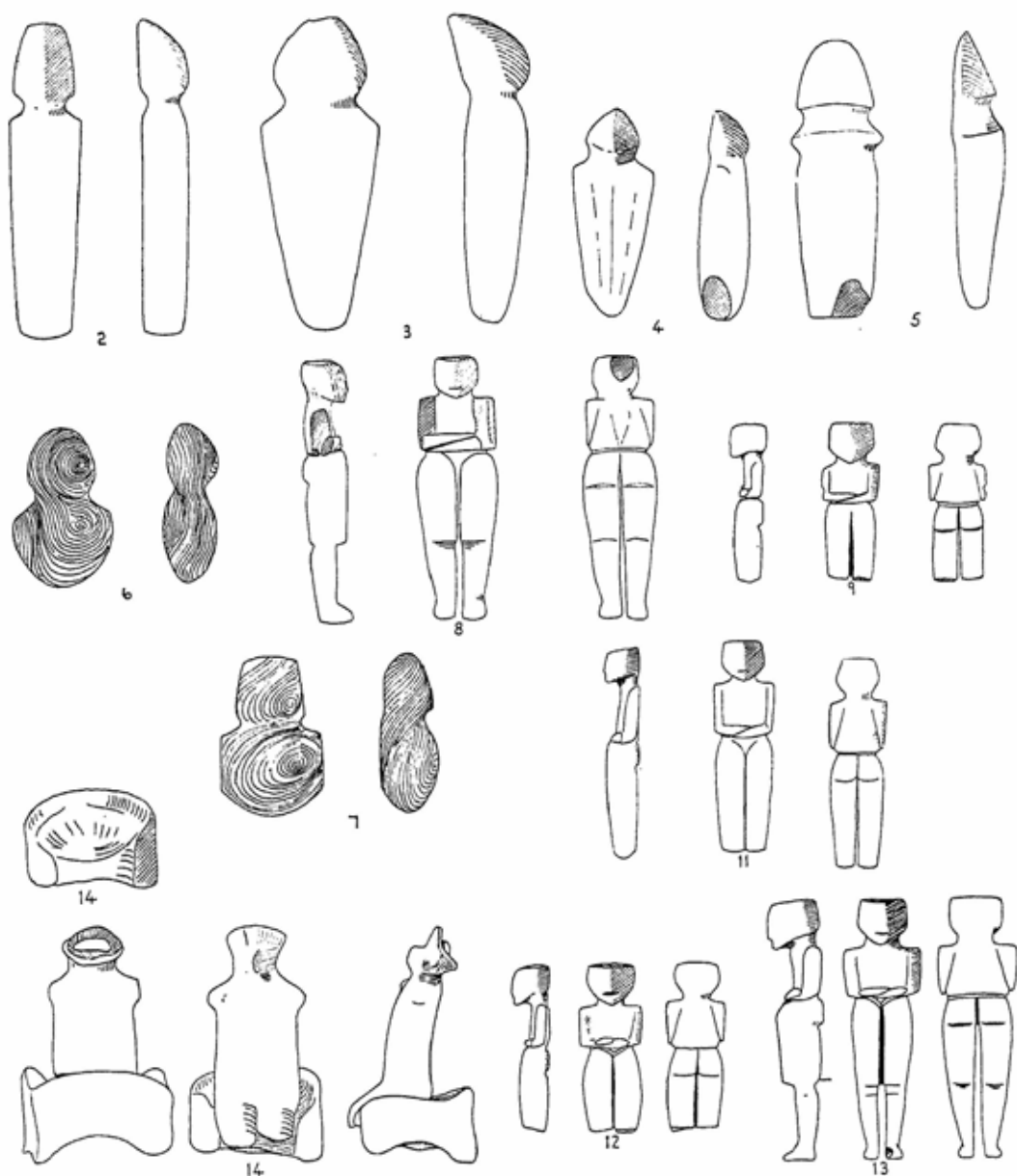


FIG. 25.—FIGURINES.  
Scale, 2:3.

Other figurines from Naqada are narrow and rectangular, divided by an indentation from a small base;<sup>1</sup> two examples shew the head with a pointed beard.<sup>2</sup>

Signorina Banti strongly denies any kinship between the predynastic Egyptian figures and the Cretan figurines. She stresses the great difference in time which separates them, and claims that there is far less likeness between the Naqada figurines and those from the Messara than has been claimed.<sup>3</sup> She upholds the theory that the Cretan figurines are derived from native steatopygous types, assuming as a parallel a development of the Cycladic marble figurines with marked human forms from the violin-shaped figurines.<sup>4</sup> But there seems no distinction in date between the more developed Cycladic figures and those of 'formless' type, judging from Tsountas' account of the tomb groups in the islands of Amorgos, Paros, Antiparos, Despotikos and Syros.<sup>5</sup> The 'formless' type of violin- or even more simple shape is more common in Paros, Antiparos and Despotikos: in Amorgos only the 'human' type occurs, in seven examples, while in Syros both kinds are found, though in small numbers.

With regard to the difference in date between the Naqada and the Messara figurines, it seems feasible that in Libya itself a primitive style in art might persist long after it produced the figurines at Naqada at the period of Libyan influence there, and that from Libya itself in later days such figurines were introduced into the Messara, together with Libyan ideas of burial exemplified in the tombs.<sup>6</sup> Nor can such marked resemblances be overlooked as the very pointed chin or beard, and the dome-like head, nor the tapering body, though in Egypt that feature is distinctive of the female figures.<sup>7</sup> Another resemblance is that of the rectangular shape of Trapeza Nos. 1 and 2, and their parallel from Porti,<sup>8</sup> to Naqada figurines of narrow rectangular shape.<sup>9</sup> The incision marking off the base of the Naqada figurines has no parallel in Crete, except in so far as it occurs as a division of the body where an incision shews the waist-line.<sup>10</sup> The heads of the Naqada rectangular figurines are completely different from those of the Cretan rectangular type.

It seems much more likely, judging from the resemblances quoted, that the primitive figurines from the Messara and Trapeza have Libyan antecedents, than that they are derived from native Cretan Neolithic prototypes. They no doubt belong to EM II, since no objects were found

<sup>1</sup> Petrie *Naqada* Pl. LIX 9, 10.

<sup>2</sup> The beard in the prehistoric Egyptian figures is indicated by lines, *ibid.* Pl. LIX 5, 8.

<sup>3</sup> *Annuario* XIII-XIV pp. 244-5.

<sup>4</sup> *Ibid.* p. 95.

<sup>5</sup> 'Ep. 'Apx. 1898-9.

<sup>6</sup> *P of M* II 1 pp. 32 ff.

<sup>7</sup> Petrie *Naqada* Pl. LIX 11.

<sup>8</sup> *VTM* Pl. XXXIX 172 Porti.

<sup>9</sup> *Naqada* Pl. LIX 10.

<sup>10</sup> *Annuario* XIII-XIV Fig. 58 a, b, c.



in 'Tholos' A at Agia Triadha, where so many of the figurines were found, which can with certainty be dated to EM I.

One of the 'shapeless' figurines referred to, from Syros,<sup>1</sup> gives the closest Cycladic parallel to the two other figurines of a primitive class from Trapeza (6 and 7). These are apparently made of shell (cf. *P of M* II 46). The heads of both the Cretan examples have more resemblance to a human head than any Cycladic examples of this or the violin-shaped type, where the head is represented in most cases by a long, rectangular projection.<sup>2</sup> 6 has a rounded head; neck and shoulders are indicated and the figurine is rounded off below. 7 is similar, but head and body are more rectangular, though the base is slightly rounded; the body of the Syros example is flask-shaped. The Trapeza figurines are not flat strips of stone, but their outline seems to bear a sort of family resemblance to a type of primitive sepulchral figurine, nearly always female, which is found over a wide area.<sup>3</sup> They should probably be dated EM III, as are the more completely formed Cycladic figurines found elsewhere in Crete.<sup>4</sup>

The six bone figurines (8-13) shew an advance on the primitive stone figurines of the Messara type, and should probably be dated EM III, as being less advanced than figurines dated MM I from other sites.<sup>5</sup> They are evidently a local product of Lasithi, as so many examples of the type were found in the Cave of Trapeza, while only one counterpart has so far been found in Crete—a fragmentary example from 'Tholos' A at Agia Triadha.<sup>6</sup> The stocky little figures, evidently male, give a very life-like and vigorous impression, in spite of their unnaturally square cut heads and lack of features, except for a straight incision for the mouth and a certain indication of nose caused by the sloping back of the sides of the face: the back of the head is flat, but the line of the jaw is strongly marked. The figures wear divided aprons: a triangular

<sup>1</sup> 'Eφ. Αρχ. 1899 p. 97 Fig. 30. Cf. also limestone figurine from Palaikastro *BSA Supp.* I p. 149 Fig. 131.

<sup>2</sup> In the Syros example quoted as the closest parallel to Nos. 6 and 7 from Trapeza the projection is fairly short.

<sup>3</sup> Sir Arthur Evans *Ag. Onouphrios Deposit* p. 125 Figs. 124-6. Bittel *Præhistorische Forschung in Kleinasien* p. 74 Pl. IX 7-11 Alishar 1b; Pl. XVI 11 and 12 Alishar 1b; Pl. XVI 13 and 14 Troy; Pl. XVI 15 Thermi. 'Αρχ. Δελτ. IV 1918 p. 163 Fig. 14 256 Pyrgos; 'Eφ. Αρχ. 1899 p. 97 Fig. 30 Syros. Opinions differ as to whether they represent a deity (*VTM* p. 23), votive figures of worshippers (Mosso, *Dawn of Mediterranean Civilisation* pp. 162 ff.), or attendants on the dead like the Egyptian ushabti (Hogarth, *Essays in Aegean Archaeology, Aegean Sepulchral Figurines* pp. 57 ff.).

<sup>4</sup> *VTM* Pl. XV (below) 224, Platanos; Pl. XXI (above) 122-7, Koumasa; *Ag. Onouphrios Deposit* p. 26 Fig. 129; Pyrgos 'Αρχ. Δελτ. IV 1918 p. 163 Fig. 14.

<sup>5</sup> *VTM* Pl. XV (below) 229 Platanos, Pl. VIII 171 Porti. (This figure may well be transitional in date between the Trapeza figures and the Platanos amulet *VTM* Pl. XV 229.) *Mochlos* p. 49 Fig. 21; Khamaizi 'Eφ. Αρχ. 1906 p. 135.

<sup>6</sup> *Annuario XIII-XIV* Fig. 58 k.

incision above the two flaps of the apron shews a belt and loin cloth: at the back an incision at the waist shews the belt: there are incisions below the buttocks and to mark the back of the knees: the arms are folded right over left: sometimes the hands are tucked out of sight: in 12 and 13 they are indicated. 8 is more thick-set than the others: 11 longer, from waist to knee: 13 shews faint traces of an eye. Two bone figurines<sup>1</sup> from 'Tholos' A at Agia Triadha shew more indication of facial feature, but do not thereby give a less primitive impression, as one has a completely round head and looks like a Dutch doll, while the other, with its widely spaced round eyes, high-set ears and widely slit mouth, is quite monstrous. The body of the second is not unlike the Trapeza bone figures in general appearance, but the folded arms are not indicated in the same way: there is no apron and only a straight belt: the first has a belt and loin-cloth, but the arms, now missing, had been attached separately.

A small seated clay figurine (14) is very rough and has stumps for arms, and the shape of the face is only vaguely indicated. It dates itself as MM I by its round raised cap.<sup>2</sup> A pottery head from one of the Proto-palatial houses at Knossos has a similar headdress,<sup>3</sup> and is almost equally sketchy, though the nose is well indicated. The Trapeza figure is not joined to its little arm-chair: they were found separately, but the exact identity of the clay and surface established their connection. The chair has very short stumps for legs and low arms and back. No parallel has so far been observed. There are, of course, seated Cycladic figures.<sup>4</sup>

15 is an ivory head, with traces of shell inlay round the eyes. The back is flat with a socket for the attachment of another piece. A first impression was that it might be Mesopotamian or North Syrian: it does not seem to be Cretan.

#### A. Primitive.

1. EM II (Pl. 18).—Large marble figurine. Almost phallus-shaped. Height 11.4 cms. From Δ 7-11. 0-0.30.
2. EM II (Pl. 18, Fig. 25).—Crystal figurine. Long head well separated from the trunk. Height 6.5 cms. From Δ 5. 0.20-0.40.
3. EM II (Pl. 18, Fig. 25).—Crystal figurine. Head more pointed than the last. Trunk tapers. Height 6.4 cms. From Δ 7-11. 0-0.30.
4. EM II (Pl. 18, Fig. 25).—Conical head. Almost triangular trunk. Height 4.2 cms. From Δ 18. Hole. 0-0.30.
5. EM II (Pl. 18, Fig. 25).—Limestone figurine. Dome-shaped head. Rudimentary stumps for arms. Height 5.1 cms. From Δ 17. Hole. 0-0.30.

<sup>1</sup> *Annuario XIII-XIV* Fig. 58 m and n.

<sup>2</sup> Cf. *Mochlos* p. 49 Fig. 21.

<sup>3</sup> *BSA XXX* p. 71 Fig. 9.

<sup>4</sup> Aberg *Bronzezeitliche und Früheisenzeitliche Chronologie* IV p. 69 Fig. 119.

B. *Fiddle-shaped.*

6. EM III (Pl. 18, Fig. 25).—Shell figurine. Height 3.3 cms. From  $\Delta$  7-11. 0-0.30.  
 7. EM III (Pl. 18, Fig. 25).—Shell figurine as last. Height 3.3 cms. From  $\Delta$  20-22. 0-0.30.

C. *Advanced.*

8. EM III (Pl. 18, Fig. 25).—Bone figurine. Slight indication of features. Legs divided, but apparent trace of split apron in front. Height 5.6 cms. From  $\Delta$  4. 0.60-0.80.  
 9. EM III (Pl. 18, Fig. 25).—Bone figurine. As last, but less indication of features and no trace of apron. Legs missing below the knee. Height 3.5 cms. From  $\Delta$  4. 0.60-0.80.  
 10. EM III (not illustrated).—Bone figurine. As last. Head and legs below knee missing. Height 3.1 cms. From  $\Delta$  8. 0.30-0.60.  
 11. EM III (Pl. 18, Fig. 25).—Bone figurine. As last. Some indication of features. Lower part of legs missing. Height 4.4 cms. From  $\Delta$  6. Hole. 1.00-1.30.  
 12. EM III (Pl. 18, Fig. 25).—Bone figurine. As last. Some indication of hands. Legs missing below the knee. Height 3.3 cms. From  $\Delta$  7. Hole 0.60-0.90.  
 13. EM III (Pl. 18, Fig. 25).—Bone figurine. As last. Indication of eye and hands. Distinct traces of split apron. Height 5.4 cms. From  $\Delta$  18. Hole. 0.30-0.60.

D. *Seated.*

14. MM I (Pl. 18, Fig. 25).—Clay figurine seated in (detachable) chair. Arms and legs have only been broken slightly, if at all. Height 4.4 cms. (figure) 1.5 (chair). From  $\Delta$  19. Hole. 0-0.30 (figure)  $\Delta$  16-19. 0-0.50 (chair).

E. *Foreign.*

15. (Pl. 19).—Ivory head with traces of shell inlay round the eyes. The back is flat with a socket for the attachment of another piece. Height 2.5 cms. From  $\Delta$  16-19. 0-0.50.

J. *Miscellanea.*

(Plate 19, Fig. 26.)

The small finds included beads, bone objects, two shaped potsherds and a shell pounder. These have been grouped together for the sake of convenience. Worked pieces of stone will be found at the end of the section *Stone*.

*Beads.* Considering the number of beads found at Mokhlos and in the Messara,<sup>1</sup> remarkably few came to light at Trapeza. The globular and flattened types, represented by *a-c* 1, are already well known from other burial deposits of EM-MM I date, for it must have been the custom during that period to inter the dead with all their personal finery. *a*, in crystal, is paralleled at Kalathiana, Platanos, and Mokhlos;<sup>2</sup> *b*, in

<sup>1</sup> In particular *Mochlos* p. 55 Fig. 25 Tomb VI, where four necklaces were found, and *VTM* p. 124 Platanos, where over 2000 beads occurred.

<sup>2</sup> *VTM* Pls. XLIII *b* and LVIII; *Mochlos* Fig. 41.

steatite, at Koumasa; Porti, Kalathiana, Agios Antonis, and Mokhlos;<sup>1</sup> *c*, in faience, at Koumasa and Mokhlos;<sup>2</sup> *c* 1, in limestone, at Agios Onouphrios.<sup>3</sup> The cylindrical specimen *d* resembles in shape beads in stone and faience from Agios Onouphrios, Mokhlos, and Knossos,<sup>4</sup> but seems to have no counterpart in bone, and indeed hitherto beads of any sort in this medium have seldom been found in Crete. *e*, in faience, is equally unique, although short tubular beads with convex sides in various stones are common from the beginning of EM II,<sup>5</sup> and faience first occurs equally early, but in a flat shape.<sup>6</sup> The crystal pendant *f* is most nearly paralleled at Kalathiana,<sup>7</sup> but is of an unusually elegant form, and is also

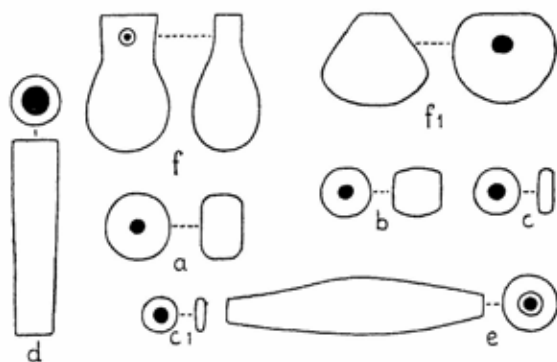


FIG. 26.—BEADS.

Scale, 1:1.

interesting as shewing how the piercing of hard stones was done from both sides. *f* 1, which appears to be half-way between a bead and a button seal, has no analogies, but Minoan pendants vary too much individually to be classified into types.

The five bone objects *g*–*k* resemble some in steatite from the Messara tombs<sup>8</sup> and others in terra cotta from the Neolithic levels at Phaistos,<sup>9</sup>

<sup>1</sup> *VTM* Pls. XXVI *a*, XXXIX *b* and XLIII *b*; *Vrokastro* p. 184, *Mochlos* Fig. 41.

<sup>2</sup> *VTM* Pl. XXVI *a*; *Mochlos* Fig. 25. For the early use of faience see *P of M I* p. 85 and *VTM* p. 31.

<sup>3</sup> *Ag. Onouphrios Deposit* p. 109.

<sup>4</sup> *Loc. cit. Mochlos* Fig. 25, *P of M I* Fig. 120. The latter are from the Vat Room deposit and date from MM Ia.

<sup>5</sup> *Mochlos* p. 55 Fig. 25, VI 34.

<sup>6</sup> *Loc. cit.* VI 35.

<sup>7</sup> *VTM* Pl. XLIII *b* 825. This is in crystal, but for shape alone cf. a steatite pendant from Agios Onouphrios (*Ag. Onouphrios Dep.* p. 109).

<sup>8</sup> *VTM* p. 49 Pl. XXXII 870–3; p. 69, Pl. XXXIX *b*; p. 87, Pl. XLVI *a*.

<sup>9</sup> *Mosso Dawn Med. Civ.* pp. 198–205 Fig. 112. Some similar ones occurred on the Kastellos, but in mixed EM-MM strata only. Those from the Neolithic deposits at Knossos are larger and seem to be real spindle whorls (*P of M I* p. 43 Fig. 10).

but they appear not to have been previously found in bone in Crete, although there are Italian examples in this material.<sup>1</sup> Xanthoudides is doubtful whether these objects should be termed whorls, buttons, pin heads, knob handles, or pendants,<sup>2</sup> and Mosso shews that they would be unsuitable for spinning,<sup>3</sup> so that on the whole it seems best to classify them as beads, but both their use and their exact date must remain uncertain.

*Objects of Unknown Use.* The four bone objects *l-o* are all rather enigmatic. *l* is evidently the point of some small tool of the kind found at Miamou, Magasa, Kamarais, and Knossos.<sup>4</sup> It was recovered from a fairly low level ( $\Delta$  4. 0.60-0.80), and may well date from the earliest occupation of the cave, although similar implements probably continued in use after the advent of metal. *m* may be compared with some amulets from Agia Triadha said to be images of bandaged corpses and to resemble Egyptian examples,<sup>5</sup> but the parallel is not close. *n* appears to be one half of a knife handle, and in this case the holes through it must be meant for bronze rivets similar to those in III 8, but presumably larger. On the other hand, it occurred in  $\Delta$  17. 1.10-1.40 N., almost at the point where this adjoined the Trapeza ware stratum  $\Delta$  17. 1.10-1.40 S., and seems to have a counterpart from Agios Nikolaos,<sup>6</sup> which should not be later than EM I: but rivets are unlikely to have been used before EM II. *o* is certainly mysterious. It might be part of a handle, but has more the appearance of an inlay,<sup>7</sup> and held in one position bears some resemblance to the face of a cat or lion. It is at all events too worn to be of much importance.

The two flat, roughly-shaped sherds *p* and *q* may have been used as palettes,<sup>8</sup> polishers, or even counters. Both shew traces of a dark semi-lustrous surface wash, and seem from their fabric to be not earlier than EM III, but they have no published Cretan parallels.

*Pestle or Pounder.* The pestle or pounder (*r*) is of the same material, apparently shell (cf. *P* of *M* II p. 46) as the two figurines (6 and 7). It has exact counterparts, in shape and sometimes in material, from early deposits on

<sup>1</sup> From near Manfredonia. Mosso *loc. cit.*

<sup>2</sup> *VTM* p. 49.

<sup>3</sup> Mosso *op. cit.* p. 202.

<sup>4</sup> *AJA* 1897 p. 297 Fig. 8; *BSA* XI p. 265 Pl. VIII; *ibid.* XIX p. 30 Fig. 8; *P* of *M* I p. 42; II p. 13 Fig. 3 *h*.

<sup>5</sup> Mosso *op. cit.* pp. 66, 67, Figs. 101, 102.

<sup>6</sup> *BSA* IX p. 343. The object in question is said to resemble the end of a pocket paper-knife, and no piercing is mentioned.

<sup>7</sup> Inlays have occurred in an EM II-III context at Mochlos (*Mochlos* p. 34, II 39), and there is a curious object from the same site, which may also be compared, from Tomb VI, and therefore belonging to the first phase of EM II (*op. cit.* p. 55 Fig. 25, VI 30).

<sup>8</sup> They bear no relation to the stone palettes from the Messara which may have served some ritual purpose (*VTM* p. 16).

the mainland of Greece,<sup>1</sup> the Cyclades,<sup>2</sup> Thermi<sup>3</sup> and Troy,<sup>4</sup> but is the first of its kind to be found in Crete. It is interesting that these objects should have such a wide distribution, and the resemblance between all the examples so far known, as well as their comparative agreement in date, is so striking that it seems as though they must have had some common place of origin. They certainly seem to represent a common fashion in the use of implements, which prevailed widely in the Aegean area, and has relationships with Egyptian ideas.

In Syros as well as pounders<sup>5</sup> similar in shape to that from Trapeza, marble saucers were found sometimes with traces of the dark blue colouring-matter which had been crushed in them;<sup>6</sup> similar saucers, without trace of colouring-matter, were found at Trapeza. The occurrence of such pounders, and also of bronze cutters or spatulae,<sup>7</sup> tweezers<sup>8</sup> and obsidian razor flakes in Crete, the Cyclades and on the mainland, is noteworthy.

#### I. Beads.

- a. EM II-MM I (Pl. 19, Fig. 26).—Flattened globular bead of crystal. From Δ 7-11. 0-0.30.
- b. EM II-MM I (Pl. 19, Fig. 26).—Globular bead of green steatite. From Δ 9. 0.90-1.40.
- c. EM II-MM I (Pl. 19, Fig. 26).—Flat circular bead of blackened faience. From Δ 7-11. 0-0.30.
- c 1. EM II-MM I (Pl. 19, Fig. 26).—Flat circular bead of steatite. Found on the dump.
- d. EM II-MM I (Pl. 19, Fig. 26).—Long cylindrical bead of bone narrowing slightly at one end. From Δ 17. 1.10-1.40. Black earth to N.
- e. EM II-MM I (Pl. 19, Fig. 26).—Long tubular bead of grey faience with convex sides. From Δ 7. Hole. 0.60-0.90.
- f. EM II-MM I (Pl. 19, Fig. 26).—Drop pendant of crystal. This has been bored through the top from both sides, and at the centre of the hole a thicker ridge has consequently been left. From Δ 20-22. 0-0.30.
- f 1. EM II-MM I (Pl. 19, Fig. 26).—Piriform pendant of green steatite. From Δ 17. 1.10-1.40. (Black earth to N.)
- g. EM II-MM I (Pl. 19).—Conical bead or button of bone pierced through the centre: diameter 1.9 cms. From Δ 4. 0.60-0.80.

<sup>1</sup> Blegen *Zygouries* pp. 196-8 Pl. XXII 13-21; Korakou p. 104; Goldman *Eutresis* p. 201 Fig. 271.

<sup>2</sup> 'Eφ. 'Apx. 1899 Pl. 10 35-6.

<sup>3</sup> Lamb *Thermi* p. 195 Pl. XXIII. This example belonged to Thermi IV b, i.e. c. 2600-2500, which seems early for the Trapeza one.

<sup>4</sup> Schieman's *Sammlung* 8432-4.

<sup>5</sup> 'Eφ. 'Apx. 1899 p. 123 Fig. 33.

<sup>6</sup> *Ibid.* 1899 p. 100.

<sup>7</sup> 'Eφ. 'Apx. 1899 Pl. 9, 30-4; *VTM* Pl. XXIV 1201, 1200; *Mochlos* Fig. 44 Nos. XXI 20 and XIX 29, 30, 32; *Zygouries* Pl. XX 22. Tsountas regards these cutters as connected with the toilet of women, as they are found most often with needles; 'Eφ. 'Apx. 1899 p. 103.

<sup>8</sup> 'Eφ. 'Apx. 1899 Pl. 10, 40, 41, 42; *Mochlos* Fig. 44 XIX 28 XIX. 33. Blegen *Zygouries* Pl. XX 19; Goldman *Eutresis* p. 216 Fig. 286, 3.

- h. EM II-MM I (Pl. 19).—Bead or button similar to *g*, diameter 1.9 cms. From Δ 7-11. 0-0.30.  
 i. EM II-MM I (Pl. 19).—Bead or button similar to *g*, diameter 2.4 cms. From Δ 13. 0.70-1.00.  
 j. EM II-MM I (Pl. 19).—Bead or button similar to *g*, diameter 2.0 cms. From Δ 18. 0.80-1.10.  
 k. EM II-MM I (Pl. 19).—Bead or button similar to *g*, diameter 2.3 cms. From Δ 18. 0.80-1.10.

## II. Objects of Unknown Use.

- l. Neolithic-EM II (Pl. 19).—Point of bone tool length 1.4 cms. From Δ 4. 0.60-0.80.  
 m. EM I-MM I (Pl. 19).—Curved object, with encircling groove near the top of bone: length 4.1 cms. From Δ 16-19. 0-0.50.  
 n. EM I-MM I (Pl. 19).—Flat object of bone broken at both ends. Four holes, two at either side, are pierced near one end, and three in a line across the other: length 4.7 cms., width 1.9 cms. From Δ 17. 1.10-1.40. (Black earth to N.)  
 o. EM II-MM I (Pl. 19).—Flat object of bone with traces of carving and two holes through the centre near one side: length 2.9 cms., width 2.0 cms. From Δ 7. Hole. 0.60-0.90.  
 p. EM III-MM I (Pl. 17).—Roughly shaped flat sherd in dark buff ware with traces of reddish-brown lustrous wash. From Δ 5. 0.20-0.40.  
 q. EM III-MM I (Pl. 17).—Triangular sherd of similar fabric to *p*. From Δ 15. 1.00-1.30.  
 r. EM I-MM I (Pl. 19).—Spool-shaped pestle or pounder of shell with convex top and base and concave sides, height 2.4 cms. From Δ 17. 1.10-1.40. (Black earth to N.)

## K. Shells.

(Fig. 27.)

A number of shells was found, examples coming from practically every level.

## NOTE ON MOLLUSCAN SHELLS.

The authors are indebted to the kindness of Mr. J. R. le B. Tomlin for identifying the shells of marine Mollusca on the floor of the Cave of Trapeza from a photograph of this collection. The difficulty of naming the specimens from a photograph only has necessitated placing a query before several, but in all other cases the identification may be regarded as certain. Mr. Tomlin's identifications are as follow.

## GASTEROPODA.

7. *Cypraea pyrum*, Gmelin.
9. *Haliotis lamellosa*, Lamarck.
11. *Osilinus turbiformis*, Salis.
12. *Patella caerulea*, Linné; or, *P. lusitanica*, Gmelin.



## LAMELLIBRANCHIATA.

1. *Glycymeris violascens*, Lamarck.
2. ? *Donax trunculus*, Born. (juv.)
3. *Paphia decussata*, Linné.
4. *Venus (Chamelea) gallina*, Linné.
5. ? *Arca (Barbatia) barbata*, Linné.
6. *Cardium* ? sp.
8. *Arca (Acar) pulchella*, Roe.
10. ? identical with no. 13.
13. *Spondylus gaederopus*, Linné.
14. ? *Chama gryphoides*, Linné.



FIG. 27.—SHELLS.

Scale, c. 7 : 10.

## L. Human and Animal Remains.

One hundred and eighteen human skulls or fragments of skulls were noted, as well as quantities of other bones. The preservative quality of



the soil had been remarkable, and the specimens which were selected for study stood the voyage to Athens very well. So many generations of treasure-seekers had, however, broken the majority into small pieces, that the total number of burials will never be known. Even allowing, however, for the possibility of several fragments belonging to a single skull it is unlikely that less than a hundred people were buried in the cave during the Early Minoan and perhaps the first Middle Minoan period.

## NOTE OF ANTHROPOLOGICAL OBSERVATIONS.

By Prof. J. Kumaris, of the Anthropological Museum, Athens.

With additional notes by Dr. W. L. H. Duckworth.

From the excavations of the Cave 'Trapeza,' near the village of Tzermiadha in Lasithi, Crete, were brought and deposited in the Anthropological Museum of the University by Mr. J. Pendlebury, who conducted the excavations, various *human bones* and some of other *animals*, which were found in burials datable to the period 3000 to after 2200 B.C.

A. Human remains. Their fragmentary condition renders the reconstruction of the corresponding skeletons almost impossible. No single skull remains intact. Judging by the fragments of lower jaws (mandible), at least twenty individuals are represented. Among these are youthful, middle-aged, and elderly persons of both sexes. The appearance of the fragments testifies generally to their great antiquity, and some of them look as if they had been almost completely incinerated.

The work of reconstruction and assembly has yielded two calvariae and one cranial base, all measurable, besides fragmentary calvariae yielding no valuable evidence, together with various more or less fragmentary frontal, parietal, and occipital bones as well as mandibles. There are also several innominate (hip) and sacral bones, as well as limb bones (femur, tibia, carpus and radius) of various sizes. Notes are appended on the individual specimens.

No. 2. (Mr. Pendlebury's Δ 4. 0.60-0.80). An incomplete calvaria, probably female. It is juvenile, and accordingly light, unmarked by prominences, and of moderate size. There is slight post-bregmatic flattening (clinocephaly). The forehead is vertical and the brow ridges are lacking. Viewed in norma verticalis, the contour is ovoid, tending to an hexagonal figure.

## No. 2. Cranial dimensions.

Metopion to Opisthocranion . . .	175 mm.
Maximum breadth . . . . .	137 mm.
Length-breadth index of the fragment . . . . .	78.29

The first of these measurements is naturally less than the glabello-occipital diameter, and the true cranial index based on the glabello-occipital measurement would be less than 78.29. The specimen can therefore be fairly termed dolichocephalic.

No. 5 ( $\Delta$  16. 0.50-0.80). A fragmentary male calvaria. The individual was of middle age, the cranial wall relatively thick, with vertical forehead though the brow-arches are prominent. Clinoccephalic (post-bregmatic) compression characterises this specimen (as also No. 2 supra). In norma verticalis the contour is elliptical, comparable with a pentagon of which the angles are rounded off.

## No. 5. Cranial measurements.

Metopion to Lambda . . . . .	189 mm.
Maximum breadth . . . . .	138 mm.
Length-breadth index of the fragment . . . . .	73.02

The specimen is thus dolichocephalic, and this character would have been more strongly emphasised had the measurement of length been available as made between the glabella, and the most distant occipital point from this.

Minimum frontal breadth . . . . . 102 mm.

Fronto-parietal index . . . . . 73.91

which connotes the character termed 'Eurymetopy.'

No. 6 ( $\Delta$  18. 0.60-0.90). Part of a calvaria. The individual was barely adult, and probably female. The skull is small and relatively very narrow. The forehead is retreating (opisthometic) and the brow-ridges prominent.

In norma verticalis, the contour is ovoid.

## Measurements of No. 6.

Metopion to Lambda . . . . .	178 mm. (??)
Maximum breadth . . . . .	120 mm. (??)
Minimum frontal breadth . . . . .	83 mm.

In view of the very doubtful accuracy of these data (especially the maximum breadth), indices will be correspondingly inaccurate. Yet the specimen certainly falls within the dolichocephalic group.

No. 10 ( $\Delta$  18. 0-0.30). A cranial base with the adjacent parieto-occipital parts together with a portion of the face. The individual was a male of middle-age. The cranial bones are thick, the occiput is bulging (*renflement* of French writers). In the facial part, the brow-ridges are distinct.

Measurements of No. 10.

Length from mesophryon to the  
occipital point . . . . . 182 mm.

No breadth index is determinable since the measurement of breadth is impossible, yet the inspection of this specimen leads definitely to its inclusion in the dolichocephalic group.

Facial measurements are available as follows:—

Facial height . . . . . 63 mm. (?)<sup>1</sup>  
Bijugal breadth . . . . . 131 mm. (?)

Upper facial index from these dimensions, 48.09 denoting Euryprosopy.<sup>2</sup>

Bimalar breadth . . . . . 63 mm.  
Nasal height . . . . . 45 mm. (?)  
Nasal breadth . . . . . 19 mm.  
Nasal index . . . . . 42.22<sup>3</sup>  
Orbital breadth . . . . . 39.0 mm.  
Orbital height . . . . . 32.0 mm.  
Orbital index . . . . . 82.05 (Mesoconch)

In general, the facial profile was clearly flat.<sup>4</sup>

Nos. 3, 4, 16-19, 21-32. Mandibles in a more or less fragmentary condition. From these, the corresponding shape of the chin can be deduced, and it appears to have been pointed, owing to the prominence of the mental portions of the bone. The attrition of the crowns of the teeth is noteworthy not only on account of the long-continued use to which it points, increasing with the age of the

<sup>1</sup> If upper facial height be denoted this is a very small figure.—W. L. H. D.

<sup>2</sup> A relatively wide countenance. Martin uses the term Euryene, not Euryprosopy.—W. L. H. D.

<sup>3</sup> Hyperleptorrhine (a very narrow nose).—W. L. H. D.

<sup>4</sup> Chamaeprosopie has been used to denote this character.—W. L. H. D.

individual as the study of these mandibles shews, but also because this detail is not commonly observed in modern contemporary crania. The difference is attributable, as is natural, to the character of the diet, which would seem to have been principally vegetarian, contaminated with numerous mineral particles and supplemented with meat poorly cooked and requiring prolonged mastication.

The remaining fragments call for no special remarks. No hard-and-fast conclusions emerge from the study of these remains. There is, however, a definite frequency of the cranial type termed, from the appearance it presents in *norma verticalis*, the dolichocephalic type. With this is associated the character called clinoccephaly, consisting of a slight annular post-bregmatic compression of the cranial vault. Dolichocephaly is distinctive of the Mediterranean type, to which the ancient Cretan race belonged. The average index of the skulls examined by Duckworth and Hawes is 74.0, of those examined by Von Luschan (from the MM period circa 1700 B.C.) is 74.8. A similar index characterises the skull No. 6 from Mallia (excavated by Dumarque).

The facial characters as observed are not consistent with those of the cranium, but only one example is measurable, and in this the condition of the remaining bones renders the result unreliable. The upper facial index (48.09 denoting the euryprosopic<sup>1</sup> variety of face) differs from the average cited by Von Luschan (viz., 54.0 denoting meso-prosopy<sup>1</sup>). Again the nasal index 42.22 is leptorrhine, and herein differs from the average cited by Von Luschan (viz., 48.4, denoting mesorrhiny).

B. The examination of the animal bones, carried out in the Zoological Museum of the University, revealed the presence of ox, goat, sheep (as lamb), an undetermined ruminant (probably cervus), dog, cat, and domestic fowl.

H. W. PENDLEBURY.

J. D. S. PENDLEBURY.

M. B. MONEY-COUTTS.

<sup>1</sup> See p. 130, n. 2.—W. L. H. D.

## THE ANTIPHONS OF THE BYZANTINE OCTOECHUS

### I. RECENT PUBLICATIONS ON BYZANTINE MUSIC

THE *Monumenta Musicae Byzantinae*, a series founded by the Danish Academy, are now fairly under way. The first facsimile, that of the Vienna Sticherarium, together with handbooks on the Ecphonetic and the Middle Byzantine Notations, have already appeared.<sup>1</sup> The first volume of *Transcripta*, the Proper Hymns for September, by Prof. Wellesz, has been published, while the November volume has now also come out. The next publication gives the facsimile of the archaic Hirmologus at the Monastery of the Iberians on Mt Athos (under the title *Hirmologium Athoum*). This series has the support of the International Union of Academies; and the British Academy has given practical help. Fr. J. D. Petresco, a pupil of Prof. Gastoué at Paris, has brought out a musical edition of the chief Byzantine Hymns for Christmas from several good mediaeval MSS.<sup>2</sup> The present writer has shewn in two articles a new principle of decipherment for the Early Byzantine Neumes.<sup>3</sup>

By far the most important work on the Modern or Chrysanthine musical system of the Greek Church that has appeared since Rebours's

<sup>1</sup> *Mon. Mus. Byz.* vol. 1 *Sticherarium*; and *Subsidia*, vol. 1 *The Middle Byz. Musical Notation* (Tillyard) and vol. 2 *La Notation Ekphonétique* (Prof. C. Höeg), Copenhagen 1935. *Prophetologium* (Ecphonetic Notation) ed. C. Höeg and G. Zuntz.

<sup>2</sup> *Les Idiomèles et le Canon de l'Office de Noël*, Paris 1932 (see our review in *Byz. Zeitschr.* 37 (1937) p. 135).

<sup>3</sup> *Laudate*, Sept. 1936. Students of Byz. Music will be grateful to Prof. R. M. Dawkins for his account of John Cucuzeles (Koukouzelis) in *The Monks of Athos* (London 1936) c. XXXIV. (My recent observations have confirmed the view of C.'s music given on page 370.) Students of the Byzantine Liturgy will note the series *Die Ostkirche betet* by Fr. Kilian Kirchhoff (Leipzig 1934-7), a German translation of the Triodion, with introduction by Prof. Baumstark. Also Emm. G. Pantelakis, *Les Livres Ecclés. de L'Orthodoxie (Irenikon)*, vol. XIII. This gives a valuable historical account of the formation of the printed service-books of the Greek Church. (Prof. Pantelakis has written several articles in Greek on similar topics: I shall be glad to send a list to any reader on request: the titles are too long to quote here.) FOLK-SONGS, Merlier, M., *Essai d'un Tableau du Folklore musical grec*, Athens 1935—a useful summary and guide to recent publications. The authoress and her collaborators have done and are doing excellent work in the recording and editing of Greek folk-songs. Recent works: *Mon. Mus. Byz.* vol. II; *Hirmologium Athoum*, ed. C. Höeg (Copenhagen 1938); and *Transcripta* vol. II. Tillyard, H. J. W., *The Hymns of the Sticherarium for November* (*ibidem*). Baud-Bouvy, S., *Chansons du Dodecanese* (Athens 1935). Tillyard, H. J. W., *Byzantine Neumes: the Coislin Notation*. (*Byz. Zeitschr.* XXXVII, 345 [1937]). Tiby, O., *I codici mus. italo-greci di Messina* (*Accademie e Biblioteche d'Italia*, XI, 1) Rome 1937.

*Traité de Psaltique* is a new treatise on the First Mode and the First Plagal, by Mme Merlier of Athens.<sup>1</sup> Written in French, this book gives a detailed account of the varieties of scale and key that belong to these Modes; a good explanation of the melodic features of many Greek hymns being also supplied. The reader will gain a vivid impression of the difficulty and complication, as well as the charm, of this semi-oriental music, which differs widely both from Ancient Greek and from mediaeval Byzantine hymnody.

## 2. THE STENOGRAPHIC THEORY AGAIN

No reply has been made by Prof. Psachos to the refutations of this theory published in England, Germany and Belgium.<sup>2</sup> But one of his disciples, stung by some remarks of Dom Tardo,<sup>3</sup> has repeated the old arguments, adding one or two new diagrams.<sup>4</sup> These, where they purport to illustrate the stenographic theory, are so badly printed that it would be useless to try to decipher them. But, in any case, they can prove nothing of what the author desires. It is easy to pick out any short phrase from a mediaeval MS and then to take the florid settings of the same words made in the eighteenth century and finally a version (based on the latter) by Gregorius Protopsaltes, or some early follower of Chrysanthus, in the modern Byzantine notation and then to assert that the original version was a stenographic prototype of the later forms, each one being a little more expanded than the one before. At this rate we might prove that Woodward's chant in D was a stenographic prototype of Stainer's *Te Deum*, because the key and the words happened to be the same! If any Western critic tries to defend this theory, I am quite ready to enter the lists with him. Meanwhile, as Kyrios Karas maintains that no foreigner can ever learn Byzantine Music, since the Greeks hold the one true and Apostolic musical tradition, it would be a misguided effort to disturb such a happy frame of mind.

## 3. AN UNPUBLISHED BYZANTINE MUSICAL MANUSCRIPT

Mr Joseph Bliss is the owner of a Byzantine *Sticherarium*; and he has most kindly given me the opportunity of seeing and studying what

<sup>1</sup> Merlier, M., *Études de Mus. Byz. : Le premier Mode et son Plagal* : Paris, 1935.

<sup>2</sup> *Laudate* Dec. 1924, March 1925. *Byz. Zeitschr.* 25 (1925) 333-338. *Byzantion*, 5, 557.

<sup>3</sup> In a lecture given at Athens in 1933, published by the 'Ιταλικόν Ἰνστιτούτον Ἀνωτέρων Σπουδῶν.

<sup>4</sup> Karas (Simon I) 'Ἡ Βυζαντινὴ Μουσικὴ Σημειογραφία (Athens, undated; written 1933). Diagrams 1 and 2 merely illustrate the growth of the notation. A reviewer in the *Byz.-Neugr. Jahrb.* (1934 p. 486) is quite wrong in saying that K. has refuted the opponents of Prof. Psachos' theory.

proves to be a very valuable and important manuscript. It is in two volumes, of which the former contains the Idiomela of the Menaea (that is to say, the Proper Hymns for the fixed days, arranged by months) and the latter the Idiomela of the Triodion, Pentecostarion and the Octoechos. By these are meant the Proper Hymns for Lent and Eastertide, together with several collections, which I will describe more fully below.<sup>1</sup> The MS is written on good parchment and may date from 1300 A.D. There are variants in red ink by one or two somewhat later hands. I am glad to be able (by the generosity of the owner) to give a photograph of a very clear page, adding a transcription in ordinary notation. The text is extremely accurate; and the MS is in good preservation and easily legible almost everywhere. It is especially fortunate that many hymns, usually found at the end of manuscripts and hence liable to be torn off or soiled, are in this instance sound. The MS is anonymous; but as it belonged to the Monastery called Tou Neou Peribleptou (according to a note on f. 3), we call it Codex Peribleptus in this article. The musical text is in the line of the regular Byzantine tradition and does not differ materially from the Vienna Codex D.<sup>2</sup> or the Stichierarium at Trinity College, Cambridge, or the other MSS used by Wellesz in his edition of the September Hymns.<sup>3</sup>

Example from the new manuscript (see Plate 20):—

### HYMN FOR THURSDAY IN HOLY WEEK.

Mode II. from b-natural (h).

Codex Peribleptus, f. 56b.

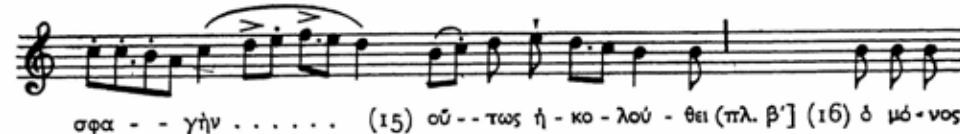
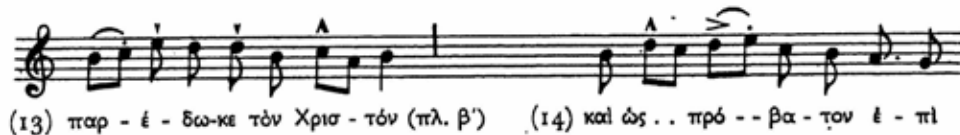
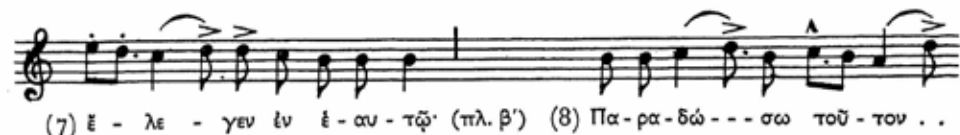
Words in Triodion, p. 538.



<sup>1</sup> *V. inf.* p. 136.

<sup>2</sup> *V. sup.* p. 132. The British Museum has acquired two musical MSS since I made the catalogue published in the *Musical Antiquary* in 1911. They are: Ad. 39 578 = a Stichierarium, probably 17th century. Contains the Proper Hymns of the Menaea (for the Fixed Days) and of the Triodion and Pentecostarion (Lent and Eastertide). The music is not in the embellished style of the Graeco-Oriental School, but has been copied, with little change, from manuscripts of the 15th century. A good many subsidiary signs are supplied in red ink. (No hymns for Easter Sunday.)—and Ad. 39 611: probably early 18th cent. Hirmologus in the simplified style: it gives only a small collection of Canons and was intended for some small monastery or for a country Church, where the embellished versions, current at the time, would have been too difficult for the cantor. Chrysanthus and his followers based their melodies on manuscripts of this class.

<sup>3</sup> Wellesz, E., *Die Hymnen des Stichierarium für September*. (Copenhagen 1936) = *Mon. Mus. Byz. Transcripta* Vol. I.





"Judas, the slave and man of guile, the disciple and plotter, the friend and devil, was by his works revealed. For he followed his Teacher and in his heart devised the betrayal. He said within himself, 'I will betray this Man, and I shall gain the covenanted price.' He was seeking also to sell the myrrh and to take Jesus by stealth. He gave the salutation: he betrayed Christ; and like a sheep to the slaughter, so followed the only Merciful and Friend of man."

This hymn is highly rhetorical, both in the words and music. We note the alliteration (lines 1 and 12), several rhymes, the parallelism in lines 12, 13, where the music also repeats the phrase (marked by the  $\delta\mu\omicron\iota\omicron\nu$ ) and the climax, brought out by the unusually high notes, indicating the triumph of avarice and treachery; and finally, with more beauty, the contrast between the spirit in which Judas followed his Master and the way in which Our Lord followed His captors. In Mode II we expect some degree of emotional tension, whereas Mode I is usually calmer. The Proper Hymns for Holy Week are, on the whole, more imaginative and sometimes more poetical than the ordinary run of Byzantine hymnody.

#### 4. THE ANABATHMI, OR ANTIPHONS OF THE OCTOECHUS

The Lesser Octoechus, which contains the Ferial Services for Saturday night and Sunday arranged for the eight Modes in order, embodies several collections, which are not always grouped in the same way in the musical manuscripts. Thus in Codex Dalasseni (the Vienna Sticherarium, published in facsimile by the Danish Academy), the Stichera Anastasima, Stichera Anatolica and Anabathmi are given as three separate series (the first group also bears the name of Alphabetic Stichera), while in Atheniensis 974 and in our new MS the three are combined under the successive Modes, and the name Stichera Anastasima is applied to the whole collection. The Morning Hymns of Leo, the Stichera Dogmatica, the Theotocia and Staurotheotocia (these last three in honour of the Virgin Mary) conclude the Octoechus in the musical MSS.<sup>1</sup> The Stichera Prosomoia (imitated verses sung in Lent) are usually placed in the MSS before the Hymns of Leo; but they are printed in the Triodion and not, like the main part of the Octoechus, in the Paracletice.

The Anabathmi, a collection of short hymns ranging through all the Byzantine Modes, supply material both easy and instructive for the student of mediaeval Greek Church music. I wish to put these hymns within

<sup>1</sup> Cf. introd. to *Mon. Mus. Byz.* vol. I p. 13.

reach of scholars at the lowest possible cost. Photographic facsimiles and printing in the staff notation are expensive and probably would not justify the outlay (even if funds were available), where the work can only be of use to very few readers. But a coloured print from a tracing is a cheap form of reproduction. It has the two merits of being natural size and of giving the key right under the Byzantine symbols. Furthermore, by showing only the pitch and length of the notes, it encourages the reader to learn the Byzantine rhythmical signs and not to rely on the approximate interpretations of them in modern notation. Anyone who finds it hard to 'hear in his head' a melody not printed in staff, has only to sit down at the piano, and his troubles will be at an end. Having in this way mastered the tune and learned the words, he can then sing the hymn unaccompanied, as it should be sung. In my book<sup>1</sup> I give the current equivalents of the Byzantine rhythmical signs, according to the rules laid down by the editors of the *Monumenta Musicae Byzantinae*. But as these are liable to change and are affected by contemporary Gregorian theory, the scheme must be taken as provisional; for, unlike the interval-signs, by which the melody is formed, the rhythmical signs are necessarily vague, and no view of them can be supported by mathematical proof.<sup>2</sup> But the differences are trifling and would be unnoticed by the hearer. For an account of the Modes, I refer to the books of Wellesz and to my own. I assume b-natural (or h) in Modes I-III, but b-flat elsewhere unless otherwise marked. In staff-notation the editors now recommend that b-flat should always be an accidental.

## TABLE OF NOTES

Modern Greek	.	Zo	Ni	pa	vou	gha	dhi	ke	zo	ni	pa'
French	.	Si	do	re	mi	fa	sol	la	si	do'	re'
English	.	B	c	d	e	f	g	a	b	c'	d'

The Anabathmi<sup>3</sup> are sung on Sunday mornings, and consist of Antiphons containing three short hymns, which are (1) a verse from a Gradual Psalm

<sup>1</sup> Tillyard, H. J. W., *Handbook of the Middle Byzantine Musical Notation* (Copenhagen: Levin and Munksgaard, 1935). See also *Byzantine Music and Hymnography* (London: the Faith Press, 1923) and Wellesz, E., *Byzantinische Musik* (Breslau, 1927).

<sup>2</sup> The recent changes made are: the Piasma = diminuendo; The Xeron Klasma = staccato group without slur; The Duo Kentemata = staccato note with slur. The last note of every hymn to be a crochet [cf. *BSA*, xxi (1914-16) 137].

<sup>3</sup> For a full account of the Anabathmi see Neale, J. M., *History of the Holy Eastern Church* (General Introduction) Part I, 2, pp. 919-20. A specimen of the Anabathmi is given by W. Christ and Paranikas in *Anthol. graeca carminum Christianorum* 53.

(or Psalm of Degrees), (2) a verse in imitation of such Psalm, (3) a verse in praise of the Holy Ghost. They are printed in the Paracletice, a Greek liturgical book, and form part of the ferial services which run for eight weeks, using in turn the eight Byzantine Modes. The Anabathmi are assigned with good reason to St John of Damascus. It was in keeping with the theological bent of his mind that he, like Cardinal Manning, felt the need of a special and separate devotion to the Third Person of the Holy Trinity.

Some years ago I analysed the signatures and cadences of the main series of hymns (called the Lesser Octoechos), to which the Anabathmi belong. The result was given in an article<sup>1</sup> which formed the continuation of a paper<sup>2</sup> entitled Signatures and Cadences of the Byzantine Modes. Having in these two articles settled to my own satisfaction the question of the starting-notes of all the Modes, I can now add that my later experience and that of Prof. Wellesz entirely confirm the rules there laid down. Wellesz, after a detailed study of the Proper Hymns for September, has written to me saying that my table of signatures has proved to be right in every instance. In the course of my own work on the Morning Hymns of Leo and on the Proper Hymns for November, I have found one or two new signatures, but otherwise full confirmation for those already tabulated. This means that all hymns in the Round Notation can now be read equally well, whatever the Mode may be. Having thus collected and deciphered several hundreds of Byzantine hymns, of which the tunes had never before been read, I naturally desired to put before the reader, not only an analysis of the signatures, but also the full text with music and words. The present article is a small instalment of this undertaking. The text is based on a manuscript at Athens, 974 in the National Library, written probably about 1300. There are no mistakes in the music of the Anabathmi. I have added the chief variants both in the Athens MS itself and from the Vienna MS (called D.) which is published as the first volume of the *Monumenta Musicae Byzantinae*, already mentioned, and occasionally have taken them from other MSS. The complete set of seventy-five hymns, with key, printed in blue ferro-prussiate, can be had from the author; and copies will, as I hope, be kept for study at the British School at Athens and at the Hellenic Society's Library in London.

In order to show the close likeness of the new MS to the general type of the Round Notation, I have collated two Anabathmi, taken at random, with the text of Atheniensis 974. It will be seen at once how trifling the differences are.

<sup>1</sup> *Byzantinische Zeitschrift*, XXXI 13.

<sup>2</sup> *BSA* XXVI 78.

Mode III. from a, Finalis f.

Codex Peribleptus, f. 109.

(1) Ἐάν μὴ Κύ - ρι - - ος οἰ - κο - δο - μή - ση οἶ - κον (πλ. α')

τῶν ἁ - ρε - τῶν . . . (2) μά - την κο - πι - - ῶ - μεν (βαρύς). (3) τὴν δὲ ψυ - χήν . .

σκε - πον - τος (πλ. α') (4) οὐδ - εἰς ἡ - μῶν . . . πορ - θεῖ - ται τὴν πόλιν.

Mode IV. Plagal from g, Finalis g.

f. 129.

(1) Ἀ - γί - ω. Πνεύ - μα - τι (2) τὸ ζῆν τὰ πάν - τα (3) φῶς ἐκ φω - - τὸς . .

(4) Θε - ὸς . . μέ - γας (5) σὺν Πα - τρι ὑμ - νοῦ - μεν αὐ - τὸ καὶ τῷ Λό - γῳ

*Variae Lectiones Athen. 974.*

Mode III.

c'.b.                      c'.b

Line I. — ρι — — οἰ    κον

   a—babga

   αρε — τῶν . . .

c'.b

2. μά — την.

   d'e'    c.b

3. σκε — πον — = Peribl.<sup>2</sup>

   c'bc' —

4. — μων. . . .

Ll. 1, 2, 3 desunt Martyriac.



prevent overlapping and to secure the greatest amount of mutual encouragement and helpfulness.

#### ADDENDUM

In September 1938, by kind permission of His Holiness the Oecumenical Patriarch, I was enabled to examine the MSS at the Patriarchate in Constantinople. Only three are of importance:—(1) Old number 329-4 (no number now legible) 4to paper XIV century. Round Notation: Sticharium and Hirmologus by the same hand. There are no hymns for Easter. The Octoechus bears the heading ἀρχὴ τῶν ὁγδοήκων τῶν τεσσάρων. It gives the Stichera Anastasima, the Alphabetic Stichera and the Anabathmi separately (as in D.). These are followed by the Morning Hymns of Leo, the Stichera Prosomoea and the Staurotheotocia of Leo. The Hirmologus covers about 32 leaves. It gives rather a small selection of Canons, seven or eight to each Mode. Several leaves have been cut out at the end and the Fourth Plagal Mode is incomplete. The pages are not numbered. (2) No number. Sticharium, paper XIV century 8vo, Round Notation. No hymns for Easter week. The Pentecostarium is followed by fragments of the Stichera Dogmatica. (3) No. 6. Doxasticarium (abridged Sticharium) paper 8vo, probably XV century (some later fragments included) contains florid settings by Cucuzeles, Cladas, Xenus Coronos and others. The MSS from the Seminary at Chalce (Heybeli) are now at the Patriarchate. They are nearly all of the XVIII century and seem to contain nothing of importance for the mediaeval student.

My best thanks are due to His Blessedness the Archbishop of Thyateira and to Mr H. G. Chick (formerly H.B.M. Consul-General at Salonica) for valuable advice and introductions, also to Mr S. R. Jordan (Chargé d'Affaires) and other members of the Embassy at Constantinople for their help and support.

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## GREEK FOUNTAIN-BUILDINGS BEFORE 300 B.C.<sup>1</sup>

Abbreviations. (I mention only the less obvious.)

- AAJ.—The Architectural Association's Journal.  
 Beazley, *ABS*.—B's *Attic Black-figure, a Sketch*, London 1928.  
 „ *AV*.—B's *Attische Vasenmaler des Rotfigurigen Stils*.  
 Fölzer.—F.'s *Die Hydria*, Leipzig, 1906. (Numbers refer to her list at the end of the book.)  
 Judeich.—J.'s *Topographie von Athen*, Munich 1936.  
 Milet.—Wiegand, *Milet*, Band I, Heft V, *Das Nymphaeum*, pp. 73 ff.  
 Orlandos.—O.'s article in *Ephem.* 1916, pp. 94 ff.  
 Pfuhl.—P.'s *Malerei und Zeichnung der Griechen*, Munich, 1923.  
 Rapp.—R.'s unpublished dissertation, in the Archaeological Seminar in Munich, *Über Architekturdarstellungen auf griechischen Vasen archaischer Zeit.*, 1914.  
 Reinach.—R.'s *Repertoire des Vases grecs et étrusques*, 1899.  
 Robertson.—R.'s *Greek and Roman Architecture*, Cambridge, 1929.  
 Südhoff.—S.'s *Aus dem antiken Badewesen*, Berlin, 1910, pt. I.  
 Weickert.—W.'s *Typen der archaischen Architektur*, etc., 1929.  
 Wiegand.—W.'s *Die archaische Porosarchitektur der Akropolis zu Athen*, 1904.

### I. INTRODUCTION.

GREECE is on the whole a poorly watered country. Its rainfall is comparatively small, and confined to one or two months in the year; its rivers dwindle and its streams disappear altogether except immediately after rain. Consequently the provision of an adequate water supply is always important. In some districts wells must be sunk; but often in more hilly regions a more obvious source of supply is the natural springs which

<sup>1</sup> I should like to express my thanks to Professor Ashmole and Professor Beazley for reading my manuscript and making many criticisms and suggestions, and to the late Mr. Payne for suggestions; to Mr. Bagenal for advice on technical points; to the British Museum for having several photographs taken for me; to Professor Buschor for allowing me to mention the unpublished Laconian kylix-fragment in Samos; to Professor Della Seta for giving me new photographs of the Lemnian models; to Doctor Diepolder for allowing me to take photographs in the Museum at Munich, and to the Archaeological Seminar in Munich for allowing me to read the dissertation of Franz Rapp; to the German Institute for providing me with a photograph of the lion at Olympia; to Mr. B. H. Hill for allowing me to publish the spouts from the fountain in the Agora at Corinth, and to the American School at Athens for providing me with photographs of them; to Mr. Shear for allowing me to mention an unpublished vase in the Agora; to several students of the British School at Athens for notes and photographs; to the trustees of the Arthur Platt and Frida Mond studentships. This article is adapted from a thesis which was written for the degree of Master of Arts at the University of London while I was holding these two studentships.

gush out from the rocks. These are sometimes left as they are, particularly in less frequented places; though often even here a basin or spout is scooped out in the rock so that the water falls clear and is more easily accessible; but in villages they are usually more radically adapted, and almost every village has its public fountains with basins and spouts, where the women come to fill their pitchers and wash clothes. Sometimes the water to feed the fountain has to be brought from some distance away if there is no spring close at hand.

In Hellenic times much the same conditions must have prevailed; but unfortunately, although every town must have had at least one well or fountain, there are comparatively few actual remains of fountains, particularly of those of an early date. This is partly because they were often made of perishable materials, such as wood, and so have vanished altogether; partly because of rebuilding by later generations; and partly because of the neglect and the plundering which have destroyed so many ancient buildings. However, a few remain in tolerable condition; and our knowledge of them is supplemented by indirect evidence, representations of them in works of art, usually vase-paintings. Fountain-scenes are particularly common on hydrias, because, as these are meant to contain water, any scene to do with water is specially appropriate to them.<sup>1</sup> Only very rarely are fountains represented in other media; they occur several times in a coin-series from Himera,<sup>2</sup> and on one issue only from Terina,<sup>3</sup> but on too small a scale to be very enlightening; a few issues from Phææ in Thessaly have a lion's-head spout on the reverse.<sup>4</sup> Lion's-head spouts occur on several archaic Greek and Etruscan gems;<sup>5</sup> and a cistern with a spout on a group of Hellenistic gems which seem to be derived from a fifth-century original;<sup>6</sup> but here again they are on a very small scale. There is one almost certain fountain-house in sixth-century sculpture, and a few terracotta models. References in literature, although useful for purposes of identification and topography, are never detailed enough to be used as evidence in reconstructing a fountain.

The development of Greek fountain-buildings is fairly simple. The form depends to a certain extent on the level of the water and the formation

<sup>1</sup> The late Minoan painters, according to Buschor *Griechische Vasenmalerei*, 1914 p. 22, decorated their pots with marine creatures for the same reason.

<sup>2</sup> *BMC Sicily* pp. 78 ff.; Gardner *Types* Pl. VI (2); Ashmole *Greek Sculpture in Sicily and South Italy* Pl. III (11 and 13).

<sup>3</sup> *BMC Italy* p. 388; Head *Historia* p. 113; *Sylloge Lloyd Coll.* 737.

<sup>4</sup> *BMC Thessaly and Aetolia* Pl. X (1, 2, 9). Head *Historia* p. 306 says that the spring represented is Hyperia.

<sup>5</sup> E.g., Furtwängler, *Die antiken Gemmen* Pl. VIII 39; Pl. XIX 20, 22; Pl. XX 11; *B.M. Cat. of Engraved Gems and Cameos*, Pl. XI, nos. 646 and 665; Beazley *Lewes House Coll.*, Pls. III and IX 43.

<sup>6</sup> See below, p. 180.



of the region. If the spring is at a low level or bubbles up in a hollow in the ground, the fountain is usually a basin with steps leading down to it. If it flows from a higher relative level, from the front of a terrace or a cleft in the rock, the rock may be smoothed, or faced with a wall, and spouts inserted to make the water flow in a convenient stream. The water from the spouts may be collected in a basin from which pitchers are filled; or there may be no spouts, simply a basin filled in some other way, perhaps by means of a hole close to the level of the water. The basins, again, may have spouts in their front walls, or may be replaced by covered cisterns with spouts.

The fountain can, of course, be left unroofed; but, in larger fountains at least, a roof is usual, to protect the water from heat and from impurities. If the spring is in a cave or under a projecting ledge of rock, these form a natural roof; otherwise the fountain will need artificial roofing, with side-walls or columns to support it. After this stage many variations are possible; other sets of spouts may be fixed in the side-walls, fed by pipes or from a cistern; and the number and arrangement of spouts and columns can be varied indefinitely.

All these different types of fountain were developed very early, and the simpler types continued along with the more complicated; so that we do not find them occurring in anything like chronological order. As has been said, their variations of form are often due to natural conditions rather than to their date. However, this is true only to a very limited extent, since the difficulties involved in building any particular kind of fountain are often very easily overcome; for instance, to raise the level of the water, the whole complex can be built in an artificial hollow, at a level lower than that of the surrounding ground. Their architectural details, on the other hand, and to some extent their material and size, vary according to the period of construction; so that it seems most reasonable to treat them chronologically, in so far as their dating can be ascertained, subdividing the chronological groups into types where these are clearly marked.

I do not propose to discuss the arrangement of springs which flow in caves or from the natural rock-face, when they are only slightly adapted, with no ordered plan or decoration, and so little architectural interest. Such springs must have been used as a source of water-supply from very early times, and may be regarded collectively as the earliest group of fountains. Among them are the cave-spring in the precinct of Asklepios on the Acropolis at Athens,<sup>1</sup> and the rather more complicated spring-house at the foot of the Pnyx, which consists of two caves and has been identified by Dörpfeld<sup>2</sup> with Thucydides' Kallirrhoe. Other springs which were later developed and complicated, such as Pirene at Corinth, must first have been used in their natural state.

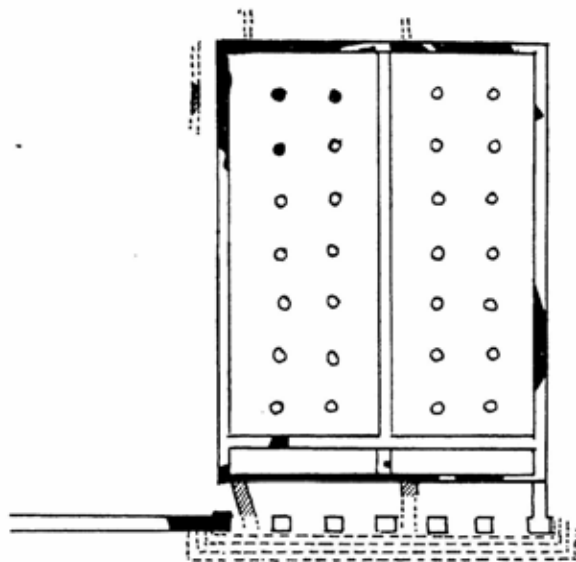
<sup>1</sup> Judeich p. 190.

<sup>2</sup> Dörpfeld *AD* II Pl. XXXVIII; Gräber *AM* 1905 pp. 7 ff.

## II. CHRONOLOGICAL SURVEY OF THE ARCHITECTURE OF FOUNTAIN-BUILDINGS.

*Before 600.*

Some of the earliest existing fountain-houses form a roughly homogeneous group, and have been identified with fountains mentioned by Pausanias: Pirene and Glauke at Corinth, and the fountain-house at Megara. Pausanias<sup>1</sup> says that the Megarian fountain was built by order of Theagenes; those at Corinth are also considered to belong to the time of the



MEGARA. Elderkin's restoration. *AJA* 1910.  
p. 48. ■ excavated walls.  
▨ " drains etc.

FIG. 1.—FOUNTAIN-HOUSE AT MEGARA.

tyrants, because of their size and their general resemblance to the Megarian fountain. This (Fig. 1) is probably the earliest of the three<sup>2</sup> and, according to Elderkin, was used as a pattern for the others. It consisted of two long, parallel cisterns, and in front of them two draw-basins.<sup>3</sup> The water was

<sup>1</sup> Paus. I, 40: οὗτος ὁ Θεαγένης τυραννήσας ὠκοδόμησε τὴν κρήνην μεγέθους ἕνεκα καὶ κόσμου καὶ ἐξ τὸ πλῆθος τῶν κίωνων θέας ἀξίαν.

<sup>2</sup> *AM* 1900 pp. 23 ff.

<sup>3</sup> *AJA* 1910 pp. 48 f. At first the excavators thought that there was only one wide cistern and basin; the division into two is an inference of Elderkin, from a small piece of the wall which separated the two basins, and from the two drain-pipes through which the water flowed away in front of the fountain, an unnecessary extravagance had there been only one basin.

brought in an underground conduit, whose walls are lined with slabs, and which has been traced back as far as the foot of a mountain to the north of the town; at some distance from the fountain it divides into two branches, to collect water from different groups of springs. There is evidence that there was a ceiling of flat stone slabs above each of the cisterns. This was supported by two rows of columns; Elderkin suggests that the central wall was not the full height of the building, but carried short columns; this would certainly justify Pausanias' wonder at the number of the columns. The columns were octagonal, a form which occurs independently in many regions, and which would arise from slicing the angles off a rectangular pillar; in Greece such columns are not uncommon,<sup>1</sup> though I know of no other early examples.<sup>2</sup> The wall between the cisterns and draw-basins was perhaps decorated with half-columns of which fragments were found during the excavation.<sup>3</sup> The existing walls of the cistern are built of careful masonry, isodomic, but with the joints often not vertical. The presence of an anta by the south-west corner of the basin points to there having been a colonnade in front, but nothing remains of it or of the entablature. The floor of the basin lay considerably below the surrounding ground-level, so that the stone parapet which closed it in front can only have reached to about the knees of the people who were drawing water. Originally the stones of the parapet were roughly finished; but they have been worn smooth outside by people rubbing against them, and deeply furrowed inside by the scraping of pitchers. Stones worn in this way have been found in other fountains. Hollows have also been worn in the paving in front of the fountain by treading and the dripping of water.<sup>4</sup> Dörpfeld suggests that there were spouts in the unexcavated west wall of the basin, as there are traces of a large room adjoining the basin on its west side.

The two Corinthian fountains roughly resemble the Megarian in their plan, but each has four instead of two cisterns. *Pirene*<sup>5</sup> (Fig. 2) is built against the side of a natural terrace, which consists of a layer of conglomerate above softer, clayey rock; water must always have oozed down through the conglomerate and out through springs at the contact with the clay. Probably small tunnels were cut back into the rock to increase the flow of the

<sup>1</sup> Furtwängler *Aegina* p. 84; Vallois *RA* 1908 II 363.

<sup>2</sup> The earliest dateable columns of this type in Furtwängler's list, from the propylon at Aegina, are as late as the beginning of the fifth century.

<sup>3</sup> *AM* 1900 p. 31. They are not described.

<sup>4</sup> Unfortunately the remains of the fountain lie largely underneath modern houses, so that only certain parts could be excavated; since the time of the excavations the level of the mud in the surrounding streets and courtyards has risen so considerably that almost nothing of the building is now visible and re-excavation is urgently needed.

<sup>5</sup> *AJA* 1900 p. 204 and 1902 p. 321. H. N. Fowler *Art and Archaeology* 1922 p. 200. *Pirene* has not yet been published in any detail; B. H. Hill's publication, which will shortly be ready, will supersede all existing literature on the subject.

springs. When finally, probably during the period of tyranny, according to Fowler, the fountain was laid out on a more monumental scale, the conglomerate was left to form a roof, and four large parallel cisterns were scooped out in the clay, communicating in front with three draw-basins and at the back with a rock-cut tunnel. The tunnel runs parallel with their back walls, at a slightly higher level, and continues some distance beyond on each side; to the south-east it ends, after about 150 metres, in a spring whose water still oozes plentifully from the rock, and it is supplemented by another

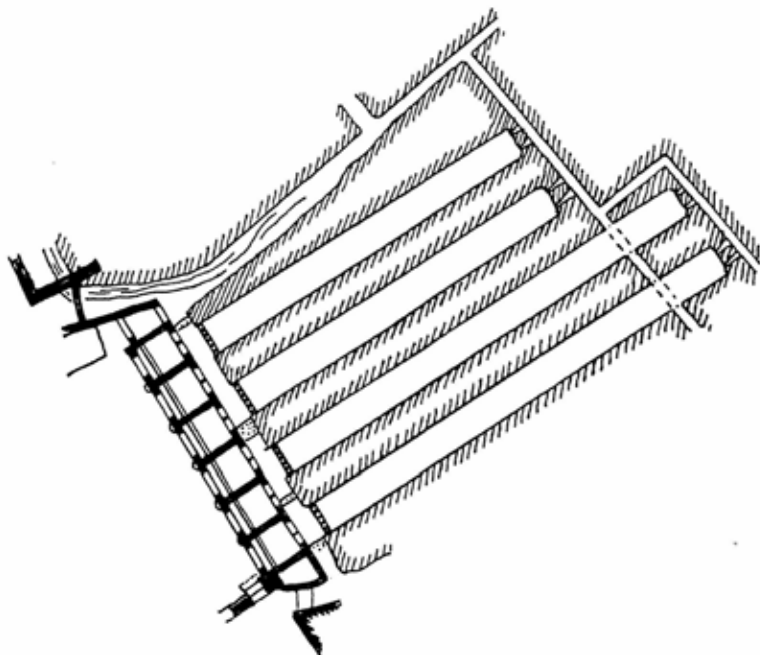


FIG. 2.—CORINTH. PIRENE: PLAN OF RESERVOIRS, DRAW-BASINS AND ROOMS.  
After *Art and Archaeology* 1922, p. 201.

tunnel; its western prolongation could not be excavated to the end. The water passes into the cisterns through funnel-shaped openings, with small raised ledges at the bottom, to keep any impurities inside the tunnel. Some kind of rock-piers or partition-walls must have been left in front of the fountain to support the roof, but all traces of them and of the parapets which probably closed the front of the draw-basins have been obliterated by later alterations. There are no signs of any decoration. So far no adequate evidence for the dating of Pirene in its early phases has been published; but the resemblance between Pirene and the fountain of Theagenes suggests that Pirene may have been part of Periander's building schemes, and so built at the end of the seventh century or the beginning of the sixth.

Glauke<sup>1</sup> (Fig. 3) is hewn out of a roughly rectangular lump of rock, belonging to the same layer as that which serves as foundation to the temple, but isolated except at the south-west corner, where there is a curved prolongation of the rock.<sup>2</sup> It again consists of four large cisterns side by side; the three eastern cisterns are roughly the same length; the westernmost ends at the back in a curving passage, the whole width of the cistern, hollowed out

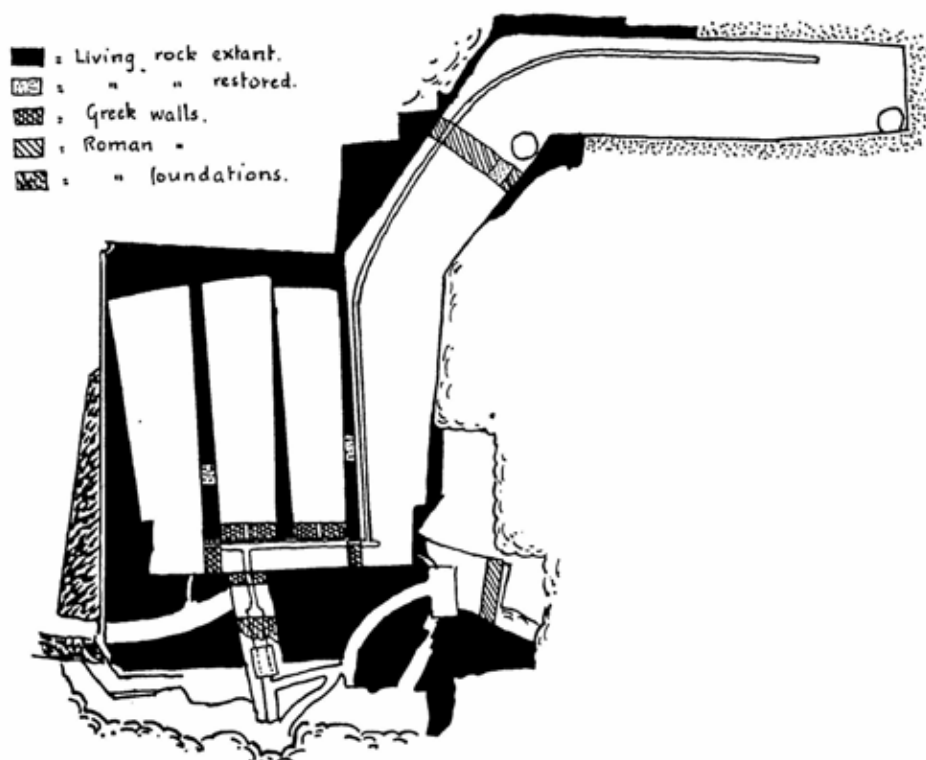


FIG. 3.—CORINTH. GLAUKE: PLAN AT FLOOR OF RESERVOIRS.  
After *AJA* 1910, p. 50.

inside the connecting arm of rock. The water must have come from some distance away, as there are no known springs in the immediate neighbourhood, but no conduit has yet been found; it entered the fountain along the curved passage. The two side cisterns reach right to the rock platform at the front of the fountain, so that water could be drawn from them; but the two in the middle end in a cross-wall, in front of which is an oblong draw-basin. Cuttings in the walls of the first and fourth cisterns show that beams were

<sup>1</sup> Elderkin *AJA* 1910 p. 19.

<sup>2</sup> Now demolished after a short distance. Probably in Hellenic times the rock was not quarried away so close to the fountain.

placed across the front of these cisterns, on a level with the wall which closed the back of the draw-basin; Elderkin suggests that upon these and on the wall there stood four light columns, crowned by a rock-cut entablature. A fragment of an octagonal shaft of suitable diameter was found close by. That the beams cannot have carried much weight is shown by the extreme shallowness of the cuttings in which they were embedded; the weight of the roof was carried almost entirely by the walls and by the rock-cut piers along the front of the platform. The only decoration of which there are any traces is the very simple entablature, consisting only of an architrave and a cornice, carved on the rock above the inner stylobate.

The rock parapet which bordered the cisterns and basins is now altogether destroyed, except beside the smaller draw-basin; here it shows the characteristic marks of wearing.

The whole complex is rock-cut except the side and back walls of the larger draw-basin, and the wall which blocks the entrance from this basin into a passage running under the platform. These were left open during the construction of the fountain, to facilitate the removal of the stone, and built up afterwards with masonry blocks. The roof was also of living rock; the part over the platform and draw-basins was vaulted. The dating of Glauke is again vague. Fowler<sup>1</sup> says that it 'most probably dates from the reign of Periander or of his father Cypselus' presumably because of its size and plan. But there is other evidence that it ought perhaps rather to be dated towards the middle of the sixth century.<sup>2</sup>

A series of terracotta models from Lemnos<sup>3</sup> bears a striking resemblance to these large fountains with cisterns. The models may be earlier; three of them were discovered in the Sanctuary, in a mixed deposit which lasts from the ninth to the late sixth century, and Della Seta dates them approximately in the eighth and seventh centuries, because their architectural peculiarities suggest that they were made during the period of 'Tyrrhenian' domination; a fourth was found in the Necropolis, a ninth- to seventh-century deposit. Three of these models are in the shape of small, box-like buildings, divided by inner walls into parallel cisterns, with a very shallow, rectangular basin in front.

The model from the Necropolis<sup>4</sup> has only two cisterns. The wall between them, and the two outer walls, are surmounted by rectangular,

<sup>1</sup> *Art and Archaeology* 1922 p. 223.

<sup>2</sup> The facts that it is cut out of the same stratum of rock as the temple (*AJA* 1905 p. 54), and that the same method of dressing blocks is found in both (*AJA* 1910 p. 24) suggest that Glauke is perhaps contemporary with the temple, which Weickert dates about the middle of the sixth century. Elderkin thinks, however, that this method of dressing blocks may have been a local peculiarity and have lasted a long time.

<sup>3</sup> In the National Museum at Athens. They will shortly be published by Dr. Filippo Magi in the *Annuario*.

<sup>4</sup> *AJA* 1934 Pl. XXA.

board-like members, forming a kind of anta-capital. The roof slopes very slightly towards the back and has an upright, flat volute-acroterion at each corner and an almost imperceptible angle at the centre; the central acroterion has been broken off. There are no holes in either walls or roof, though there may have been in the restored parts. The rooms are separated from the basin in front by a very low raised ridge, in which are pierced two minutes holes, one in front of each of the rooms. The basin is almost entirely broken away. There are two snakes on the floors of the rooms, and two more outside, in the basin, touching the raised rim.

A model from the sanctuary (Pl. 21) has three cistern-rooms instead of two, but is otherwise much the same, and has the same board-like anta-capitals. The roof is made separately; along the front is a raised ledge like a board standing on edge, and in front of it are two snakes, the front parts of which are broken away. The basin has a rim all round, with a hole in the front and a groove down to floor-level in front of the central room. There are snakes and perhaps a tortoise in the basin. In the back wall of each of the three rooms, at floor-level and in the right-hand corner, is a small hole; these communicate with a shallow trough which runs all along the back of the house and is edged with a rim of the same height as that round the basin.

Another model<sup>1</sup> has again three rooms, and the roof has a slightly raised rim along the front, curving up at the sides into nearly triangular acroteria. Two of the walls are broken away at the top; but the second and fourth have in place of anta-capitals two figures fixed against their front faces, one seated on a carefully modelled chair, the other standing. In front of the basin there is a projecting spout; there are now no holes of any kind, but the backs of the rooms are almost entirely restoration. There are traces of a painted maeander-pattern on the flat rim round the basin, and small holes, as if thick wires had once been stuck there to form a fence.

The fourth and more fragmentary model had no inner walls, but instead two roughly rectangular piers in front.<sup>2</sup> At the top of the two outside walls, in the same position as in the model just mentioned, are two roughly shaped standing figures. The roof, as usual, has a rim along the front, but apparently no acroteria; it slopes back a little more steeply than those of the other models. There is a small round hole at the back of it, in the middle. The basin is small and semicircular, and contains a human figure and the usual snakes and tortoises. The back is almost entirely broken away, so that it is impossible to tell if there were holes.

I have described these models in some detail because they seem to offer a good parallel for the cisterns of the fountains at Corinth and Megara, and because of certain curious details. The excavator, Della Seta, thinks that they represent temples or houses, not fountains, and regards the presence of

<sup>1</sup> *AA* 1930 p. 146 fig. 22

<sup>2</sup> *AJA* 1934 Pl. XXB



reptiles and the human figure as arguments in favour of this view. But snakes are creatures which love cool, damp places, and are often associated with fountains in vase-paintings, either real snakes,<sup>1</sup> or decorative ones as a pedimental filling; and the human figure might quite well be bathing in the basin. All the models except the most fragmentary have either holes or a spout, sometimes both, and must obviously have been meant to hold real water, particularly the model with the trough at the back, so that to me they seem to be definitely fountain-houses. The fact that there was found in the sanctuary deposit a model of a century later, undoubtedly representing a fountain of the more normal Greek type,<sup>2</sup> corroborates this view.

On the other hand, it is difficult to tell how far they are to be taken literally and what material they represent. The cisterns may be imagined in masonry, like the Megarian complex; they might equally well be rock-cut, with the surrounding rock left to the imagination. The trough at the back of the second model may represent a rather free translation of the underground tunnel by which the water was brought, as in *Pirene*, or may be simply to facilitate the working of the model. The roof and columns may be either wood or stone, if the walls are masonry, or rock-cut like those of *Glauke*; in any case the prototype of the thin, board-like volutes and anta-capitals is certainly wood. It is particularly unfortunate that the roof-decoration is so broken away; snakes as a pedimental decoration and volute-acroteria can of course be paralleled on many vases, but never in quite the forms which the models show. The use of the figures at the top of the wall-faces suggests comparison with a model of a roof from *Nemi*<sup>3</sup> which has figures in relief on what seem to be the terracotta facings of its roof-beams; the *Lemnian* models would represent a rather awkward development of the same practice, an argument in favour of their being copied from rock-cut fountains, whose architecture would be merely a carved decoration, and not built up organically. Certainly there is no close parallel in Greek architecture, and, in their decoration at least, the fountains are, as *Della Seta* says, definitely 'Tyrrhenian,' not Greek.

A fountain of a different kind is attributed by *Buschor* to the seventh century: the basin which he excavated not far from the *Heraeum* at *Samos*.<sup>4</sup> The basin is sunk in the ground, with carefully built retaining-walls of slabs, and is surrounded by a strip of paving. The inlets and outlets consist of: a set of holes in the lowest course of two of the sides, running right through the wall and ending immediately against the sandy ground surrounding the basin, without communicating with any pipe or channel;

<sup>1</sup> *E.g.*, Berlin 4027.

<sup>2</sup> See below, p. 175.

<sup>3</sup> *Robertson* p. 196 fig. 87.

<sup>4</sup> *AM* 1930 pp. 28 ff. The position of the basin suggests that it was built shortly after the *South Colonnade* (p. 32); this is dated by sherds to the orientalisising period (p. 22). The stylistic affinities of the spout confirm this dating. (The basin was covered in again after excavation.)



and a channel floored with slabs and walled with small limestone blocks. This communicates with the basin by a small hole in one of the slabs of the wall; a little way from the basin a slab with a hole in it cuts across it, forming what seems to be a small settling-basin. A lion's-head spout<sup>1</sup> was found buried inside the basin, and probably formed part of the system. The water seems to have entered the basin through the channel and oozed out into the sand through the holes in the walls; though possibly the reverse may have happened, since an earlier shaft in much the same region is drained in the opposite direction. In any case the water was from the river Imbrasos, not from springs. Buschor interprets the basin as the bath in which the image of Hera was annually bathed.<sup>2</sup>

### *Sixth Century.*

The 'Olive-tree pediment'<sup>3</sup> in the Acropolis museum must, from stylistic considerations, have been made early in the second quarter of the sixth century. Here the fountain building is a small house of very careful pseudo-isodomic masonry.<sup>4</sup> The right-hand half of the building is largely occupied by a doorway;<sup>5</sup> the walls are crowned by a cornice with mutules, which are painted black and have two rows of six guttae. The roof is hipped at both ends and made of flat pan-tiles and angular cover-tiles. It is, of course, impossible to conjecture how the sculptor imagined the interior arrangement of the house. Fountains of this kind, with walls on all four sides, are not at all common; I know of only one other probable example, another Troilos scene on a Lakonian dinos.<sup>6</sup> In a building where people were constantly going in and out, an open colonnade on one side would be much more convenient than a narrow doorway.

One or two isolated examples of vase-paintings with fountains, such as

<sup>1</sup> See below, p. 194.

<sup>2</sup> Athenaeus *Deipn* XV 672.

<sup>3</sup> *AM* 1922 pp. 81 ff. It seems to me that Buschor has proved conclusively that the pediment represents a scene from the Troilos legend and that the building is a fountain-house, even though his conjectural reconstruction of the whole pediment strikes one as slightly empty and disjointed. Wrede, *Attische Mauern* p. 44 fig. 10.

<sup>4</sup> A wall of Peisistratid date at Eleusis shows the same type of construction. Wrede *Attische Mauern* p. 44 fig. 30.

<sup>5</sup> Buschor thinks that in the real building, which suggested that in the pediment, the door was in one of the short walls, and the sculptor moved it round so that it might be seen. This would be natural in painting or low relief, but in high relief, where the craftsman is dealing with solid forms, it is surely too naïf even for such an early date; the lack of other examples of doors in this position seems to me unimportant, considering how scanty are the remains of the simpler kinds of Greek buildings. For a door in roughly this position, but in an elliptical house, see *AM* 1930 p. 17.

<sup>6</sup> Louvre E. 662. For references to publications of all the vases mentioned, see list at the end. The unpublished dissertation of Franz Rapp, in Munich, on architecture in archaic vase-paintings, which I read after most of this article was written, discusses a large number of the vase-paintings in my list, including a few which I did not already know. Where my independent conclusions are the same as his I make no acknowledgment.

the Corinthian Timonidas vase,<sup>1</sup> are a little earlier than this pediment; shortly after begins the very rich series of fountain-scenes on Attic black-figure vases, lasting until about the end of the century; occasionally there are fountains on contemporary black-figure vases from other centres. In black-figure paintings the figures tend, at least at first, to be tall and thin and spaced out, so that there is plenty of room for architectural motives; fountains fit well into the usually linear and rather angular design and help to hold the composition together. The evidence of vases must, of course, be used with discrimination, but it is quite possible to form from them some idea of the plan, materials and architectural forms of the fountain-houses of their period.

a. *Water-level.*—The fountains on black-figure vases are all of the type where pitchers are filled under spouts, not dipped into the water; this is not surprising, for the other type does not lend itself nearly so well to reproduction. From the front a continuous basin would be indistinguishable from a border or frieze running round the lower part of the wall. Besides, as Orlandos points out,<sup>2</sup> the water, the centre of the whole scene, would not be visible; and the action of the people would be ambiguous, since from any point of view the pitcher would be at least partially hidden by the basin. So that the exclusion of the basin type of fountain is probably due only to artistic considerations.<sup>3</sup> The fountains built by the tyrants must have continued in use for many generations, and at least one basin-fountain is known to have been built during this period.<sup>4</sup>

In many vase-paintings the level of the spouts is very high; in actual fact such an arrangement would not be very convenient, because if pitchers stood on the ground or on a stand which was not almost ridiculously high, the water would splash, and a partially filled pitcher would be very heavy to hold up to the spouts. Südhoff<sup>5</sup> makes the excellent suggestion that in some fountains the spouts were placed high in order that on certain occasions they could be used as shower-baths; on several vases fountains are being used for bathing.<sup>6</sup>

<sup>1</sup> Athens 277. First quarter of the sixth century (Payne *Necrocorinthia* pp. 73 etc.).

<sup>2</sup> *Ephem.* 1916 p. 96.

<sup>3</sup> I deliberately omit vase-paintings where water is being drawn from an object like a pithos buried in the ground—e.g., Milan, Castello Sforzesco 06504 (*RA* 1933 p. 155 fig. 1); Vienna (*id.* p. 158 fig. 3); Florence 76103 (*RA* 1935 p. 205 fig. 1); Rome, Museo Artistico Industriale (*RM* 38-39, Pl. II, 1 and *RM* 46 Pl. XXI 1) (by Onesimos). Incidentally, these are all red-figure kylikes from the years shortly before or shortly after 480. Also Berlin, Antiquarium inv. 3228 (Pfuhl fig. 276), a late black-figure pelike. In all these the pithos-top must crown quite a deep well, as ropes, and on the pelike a primitive kind of crane, are being used to lower the buckets to water-level.

<sup>4</sup> The fountain on the temple-terrace at Delphi. See below, p. 175.

<sup>5</sup> *Aus dem antiken Badewesen* (Berlin, 1910) I. 64.

<sup>6</sup> E.g., Madrid 10924; Berlin 1843; Leyden 14 c, 28; Athens Nat. Mus. 1425; Acrop. frag. 2599; *Elite Céramographique* IV 17. The oil-flask in B.M. B 333 suggests that someone has just had a bath.

b. *Plan.* Summaries of the possible plans of fountain-houses have been given by Wiegand<sup>1</sup> and Orlandos,<sup>2</sup> but both seem inclined to take the vase-paintings too literally. There are several reasons for caution.

In the first place, when true perspective is not used at all, one of the most natural ways of drawing a building is in elevation, and most of the drawings of complete or nearly complete fountain-houses are in fact frontal elevations. But an elevation drawing has certain limitations; it would, for instance, be impossible to show two columns, one directly behind the other, since the front column would completely overlap and hide the other. There is, again, no satisfactory way of showing two spouts in the side wall of a house, when the wall is drawn in profile. Therefore vase-painters always chose to draw the simplest kinds of fountain, and ignored others which had more complicated plans.

On the other hand, the archaic painter is also apt to draw things from several points of view at once; he combines a frontal body with side-view legs, frontal eyes with a profile face, because he is building up his figure from a series of mental images of its separate parts, each in its most characteristic aspect, instead of thinking of the figure as a whole. We have at least one example of a fountain-house treated in the same way: the painter of the New York Troilos cup<sup>3</sup> draws the wall and spout from the side, because the shape of the spout shows most clearly in profile, and the water and spout would not tell against the masonry pattern of the wall; but as he wishes to show the whole fountain-house, and not to have one column blotted out by the other, he draws the outside of the house in full front view.

Sometimes, however, the painter does not attempt to show a whole building, but merely suggests it by a kind of shorthand: a column will represent the building, and a spout hanging in mid-air beside it will show that it is a fountain-house.<sup>4</sup> Sometimes, to show that spout and column belong to the same building, the spout is actually attached to the column.<sup>5</sup> The type of fountain which is most common on vases seems to me to be an example of this kind of shorthand: the fountain stands at the edge of the picture, and consists of one column crowned by a piece of entablature which runs across to the line which edges the picture (Fig. 4); there is either a

<sup>1</sup> *Milet* pp. 73 ff.

<sup>2</sup> *Ephem.* 1916 pp. 94 ff.

<sup>3</sup> New York, G.R. 521.

<sup>4</sup> B.M. B 325. Berlin 4001 has only a triglyphon and spout, without any columns, and a kalpis in Rhodes from Ialysos, a triglyphon and capital (this does not show clearly in the publication). Spouts without any building, usually with a stand underneath, are of course common; e.g., B.M. B 338.

<sup>5</sup> New York, Gallatin Collection (here there is a small section of architrave above the column, with a second, frontal spout attached to the bottom of it); Philadelphia (*A.J.A.* 1907 p. 429) Athens, Acrop. frag. 563 (r.f.); Madrid 11117 (r.f.); B.M. F 493 (Etruscan).

profile spout attached to this line,<sup>1</sup> or—much more rarely—a frontal spout in the space between it and the column,<sup>2</sup> or one frontal and one profile spout<sup>3</sup> (Pl. 22a). It is, of course, possible to regard this scheme as a



FIG. 4.—HYDRIA, MUNICH 1716.

deliberate profile or section of the fountain-house, as Orlandos does; but this is not the sort of characteristic view which one would expect to occur to a

<sup>1</sup> *E.g.*, Athens, Acrop. frag. 732; Berlin 1725 and 1908; B.M. B 331, 333, 336; Munich 1716; New York 06.1021.77. Almost all the vases in my list at the end which have no page reference are of this type.

<sup>2</sup> Berlin 1910; B.M. B 337 and 640; Munich 1693; Naples R.C. 205; Paris, Bibl. Nat. 330.

<sup>3</sup> B.M. B 330.

painter when he is drawing anything so complicated as a fountain-house. It is much more likely that he thought separately of all the component parts and then fused them together into a more or less convincing whole. Whatever its origin, the scheme was soon found to be particularly convenient, and was copied without much thought, and individual painters added structural



FIG. 5.—HYDRIA, MUNICH 1715.

or decorative details, perhaps observed from real fountain-houses, without altering the essentials.

The chief drawback to this kind of design was that the picture was asymmetrical and all its action concentrated at one end. One solution was to put a fountain at each end.<sup>1</sup>

It is questionable whether a kind of fountain-house which has a wall down the centre and one visible spout and column, implying more, on each

<sup>1</sup> Naples S.A. 12; Louvre F 302; Würzburg 345 (without columns).

side<sup>1</sup> (Fig. 5 and Pl. 22*b*), ever existed in actual fact, or whether it is not to be regarded as another solution of the same problem. If a painter wanted a fountain-house of the usual kind in the middle of the picture, he would be forced to adapt it in some way; otherwise it would be asymmetrical and, from one side, inaccessible. The difficulties would be easily overcome by putting another fountain, reversed, backing against the first one. A double fountain would, of course, be quite possible if one end of the wall was built against a spring or cistern; but it seems unnecessarily complicated, and no remains of such fountains have ever been found. As they all occur on a small group of late black- and early red-figure vases, they are probably all due to a common artistic convention, and not founded on fact.<sup>2</sup>

Probably painters sometimes realised that their conventional rendering of a fountain was in fact the same as a section or profile of a fountain. Two drawings show a second column in front of the first,<sup>3</sup> and seem to be sections of fountain-houses with two rows of columns. Such an arrangement does occur in the fourth-century fountain at Ialysos and the third-century fountains at Sicyon (though in both of these slabs are fixed between the columns of the back row, so as to form the front of the basin); and in the later Hellenistic fountain at Magnesia on the Maeander; though there are no known archaic examples.

Apart from the limitations imposed by the lack of perspective, front-view drawings of whole fountains would involve few difficulties; and there seems no reason to doubt that such drawings are fairly faithful representations of the simpler types of fountain of their period.<sup>4</sup> The fountains are

<sup>1</sup> Athens, Acrop. frag. 742 (?); B.M. B 334 and 335; Munich 1715; Naples S.A. 157; Louvre F 296 (central wall and part of entablature, but no columns); hydria once on sale at Sotheby's; Taranto; Rome, Torlonia Coll. (r.f.); Berlin 2173 (r.f.). On Thebes, Rhitsona gr. 18, no. 15, there are spouts attached to both sides of a Doric column.

<sup>2</sup> See Graef pp. 89 ff. on Acrop. Frag. 732. Rapp thinks that this form arose from an attempt to show two spouts in the same wall.

<sup>3</sup> Boulogne-sur-Mer; Athens 12531.

<sup>4</sup> By this I do not, of course, mean that any vase-painting is a literal portrait of a particular fountain. Details such as the satyr on the fragment in Leipzig or the spouts on B.M. B 329 may be taken from actual fountains, but the buildings are quite general drawings of typical fountain-houses. Kallirrhoe is twice shown by the simplest and most general scheme of all, with the name added to make the meaning clear (Acrop. frag. 732; B.M. B 331), and even these two drawings differ considerably in details.

Two other drawings are perhaps intended to represent individual fountains, though not literally. The fountain on the Hypsis hydria in the Torlonia Collection is labelled Διονυσια κρήνη, and has a satyr's head for a spout. Furtwängler (*FR* text II p. 115) thinks that the fountain was near a sanctuary of Dionysos and may even have been Dörpfeld's Enneakrounos (see below, p. 172), since the remains of a temple of Dionysos were found near it.

On a hydria in the B.M. (B 332) the fountain-house is flanked by two colossal figures of Dionysos and Hermes, which Walters (*CVA*) says are probably statues. On the shoulder of another hydria (B.M. B 334) is a disjointed scene in which Dionysos and Hermes again appear. Beazley suggests that in both drawings the gods are symbols to represent their

exactly what one would expect: small buildings with an open colonnade, either prostyle or in antis, along the front, and with spouts in the back wall,<sup>1</sup> sometimes in the side walls as well,<sup>2</sup> and occasionally only in the side walls.<sup>3</sup> Two fountains<sup>4</sup> have a wall down the middle, at right angles to the back wall, with spouts on each side, but I think they are influenced by drawings of unreal, double fountains.

Orlandos and Wiegand regard the fountains which look like masonry pillars<sup>5</sup> as in fact pillars (Pl. 22c).<sup>6</sup> But it would require considerable pressure to raise the water to the level of the spouts in isolated pillars, and the drawings must really be meant for profile views of walls (or small strips of the front of walls), which were either facings to the rock from which the spring flowed, as in the fountain in the Agora at Corinth,<sup>7</sup> or retaining-walls of terraces, like the Polygonal wall at Delphi, or else the front walls of cisterns.<sup>8</sup> A few pillar-like fountains have vertical incisions instead of masonry patterns, and may be a kind of engaged column decorating the end of the wall, or perhaps a box-like cistern built out of tall slabs close against the rock.<sup>9</sup> (Fig. 6).

The natural rock which must have been an essential and visible part of many fountains is always omitted in black-figure vases, as it would be vague in outline and difficult to stylise.<sup>10</sup> Cisterns are sometimes suggested by making the wall to which the spout is attached very thick.<sup>11</sup>

precincts, between which a fountain stood. The precincts of the same two gods are perhaps symbolised by their attributes on a double herm which was used as a boundary stone (AA 1915 p. 180 fig. 3), though Beazley regards the pot as a hydria, and the herm as a boundary between a precinct of Hermes and a fountain.

<sup>1</sup> Agora P 2642; Bari 3083; Florence 4209 (223); Leyden 14 e, 28; B.M. B 332; Madrid 10924; Würzburg 317.

<sup>2</sup> E.g., B.M. B 329; Würzburg 316.

<sup>3</sup> B.M. B 332.

<sup>4</sup> Berlin 1843; Rome, Vatican (Alinari 35777).

<sup>5</sup> Eleusis; ex-Forman Coll. 282; Vienna 221; Louvre E 876 and F 296; Rome, Conservatori.

<sup>6</sup> Mr. T. J. Dunbabin has kindly allowed me to publish this photograph.

<sup>7</sup> See below, p. 173.

<sup>8</sup> Rapp thinks (p. 20) that these pillars are a compressed version of fountain-houses without columns, like that on the Lakonian dinos, Louvre E 662 (see below, p. 170), and that they were made narrow because of shortage of space. This is, of course, possible; but spouts attached to plain walls must have existed, and there is no reason why they should not appear on vases.

<sup>9</sup> B.M. inv. 99.7-21.2; Munich 1436; Berlin 1694; Athens, Acrop. frag. 2146. (Here the central panel is decorated with a rough-scale pattern.)

<sup>10</sup> If the painter is drawing a natural spring, without architectural additions, so that he cannot omit the rock, he shows only the front surface of the rock, sliced off and drawn in profile, so that it looks like a pillar (e.g., B.M. B 324). A pillar fountain on a Siana-cup in Taranto is probably meant for a natural spring, as there is no masonry pattern and a tree is growing from the top. Cf. the Hellenistic terracotta, Athens no. 886 (Dumont-Chaplain II Pl. XIX p. 237; Priene p. 68 fig. 35), which gives only a thin slice of the wall or rock to which the spout is fixed.

<sup>11</sup> E.g., Athens, Acrop. frag. 2599; B.M. E 13 (r.f.).



On a few fountains which are not Greek there are incredible fountains which must be pure fantasy, like the gigantic lion's head fixed upright in the top of an altar-like masonry structure on an Etruscan amphora in the Louvre.<sup>1</sup>

c. *Elevation and Materials.*—The walls at the back and sides of fountain-houses must sometimes have been the face of the rock, smoothed,<sup>2</sup> at other times revetting or free-standing walls of masonry. On vases the two are not distinguished, and though in the case of walls without any house attached



FIG. 6.—AMPHORA, MUNICH 1436.

the masonry pattern is usually shown, the walls of houses are nearly always left plain.<sup>3</sup>

The columns are almost always extremely thin in proportion to their height—much thinner than any of the archaic columns which have been preserved. This is perhaps largely due to the exaggeration of the painter, who prefers thin forms in architecture, as in people, and also wants to

<sup>1</sup> Louvre E 703 (Gerhard *AV* Pl. CLXXXV; Ducati *Pontische Vasen* Pl. IX (other side); Jacobsthal *Ornamente* Pl. Xc); cf. *CVA Villa Giulia* IV Bn. Pl. 2.

<sup>2</sup> Bagenal *AAJ* Aug. 1936 p. 84. In fountain-houses whose walls were cut out of rock it would be possible to embed the ends of the roof-beams in the rock itself, thus making the whole building more solid and allowing a heavier pediment.

<sup>3</sup> Except the central walls of 'double' fountain-houses, which are often chequered—e.g., Berlin 2173; B.M. B 334; Louvre F 296; Naples S.A. 157. Is this because the painter is a little troubled about how to fill up the space between his two fountains?



economise space. The originals, however, were probably made of wood, and so could be considerably thinner than stone columns. The view that they were often made of wood is confirmed by the horizontal tie-bar which in vase-paintings is often fixed into the neck of the shaft or the lower part of the capital, connecting the columns with each other or with the walls of the building.<sup>1</sup> It is usually very narrow, and therefore was probably made of metal.<sup>2</sup> Bars of this kind would be particularly appropriate in a light, wooden building.

Usually the shafts are plain, but occasionally they have two or three incised lines<sup>3</sup> to indicate that they are fluted or polygonal. The plain shafts would be tree-trunks smoothed and left circular in section, or perhaps sometimes rectangular, like the thin wooden supports under the balconies of many modern Greek houses. Vallois suggests that the line down the middle of a column on a vase in the Louvre<sup>4</sup> is not plastic, but merely painted decoration on the front of a rectangular shaft. Certainly rectangular shafts would combine well with the early, rectangular type of Ionic capital represented by many of these vases and by capitals from Athens and Delos.<sup>5</sup> It is true that none of these real capitals had square shafts, but as their shafts were of stone, this is hardly an argument against at least an occasional use of rectangular wooden shafts. Doric capitals, on the other hand, can hardly have been combined with anything but round shafts.

These Doric capitals are usually of the very spreading type represented by early buildings such as the seventh-century temple of Athena Pronaia at Delphi<sup>6</sup> and various temples of Magna Graecia,<sup>7</sup> but even wider than these. Durm is inclined to think that, on some vases, capitals which appear to be Doric may really represent narrow, rectangular bracket-capitals of the type from which Ionic capitals are derived, and which are still commonly found in Greece.<sup>8</sup> But their proportions may quite well be due only to exaggera-

<sup>1</sup> *E.g.*, Madrid 10924; Vatican (Alinari 35777); B.M. B 330; Berlin 1725 and 1843; Athens Acrop. frag. 732, 741; Munich 1690.

<sup>2</sup> Occasionally there are triglyphs standing actually on the tie-bar; *e.g.*, B.M. B 333 and 336; Vatican (*Mus. Greg.* II Pl. IX, 2b); but this must be due to artistic compression. A hydria in the Vatican (Alinari 35777) has snakes and birds above the bar; De Ridder (*RA* 1901 p. 178) thinks that they were cut out in sheet metal and attached. It seems to me that they are much more likely to be either real animals, arranged conventionally to make a better pattern, or, as Payne once suggested to me, a frieze painted on the back wall of the house.

It is interesting that in the house-model from the Argive Heraeum (*AM* 1923 p. 52) the columns are joined to the wall by just such struts. Here they are probably the ends of wooden beams the rest of which was imbedded in the wall.

<sup>3</sup> *E.g.*, Florence 4209 (François-vase); Würzburg 317.

<sup>4</sup> Louvre F 302.

<sup>5</sup> Athens, *AD* I Pl. XVIII; Perrot and Chipiez VII Pl. LIII 4. Delos *id.* Pl. LIII 1.

<sup>6</sup> *F de D.* I. 3 pp. 32 ff.

<sup>7</sup> *E.g.*, the two older temples at Paestum, Robertson figs. 30a and 32.

<sup>8</sup> Durm p. 373.

tion, and their profile on most of the more careful vases has a very smooth curve, whereas one would expect brackets to be cut more angularly; so that they are probably meant to be round.<sup>1</sup>

There are sometimes patterns engraved round the necks of Doric columns;<sup>2</sup> Rapp suggests that this may be a way of showing the ring of leaves which is sometimes carved at the bottom of archaic capitals,<sup>3</sup> for if the leaves were drawn in their true position, at the bottom of the capital, they would be in sharp perspective and only partly visible. There are often leaves in the same place in red-figure, though here they are usually more intelligibly drawn. The ring of leaves is once drawn roughly, but in true elevation on a black-figure hydria in Munich.<sup>4</sup> (Fig. 7)

Ionic capitals do not occur before late black-figure. Usually they are very simple in shape, with the neck of the shaft and the bottom of the volutes almost in a line, so that they could quite well be ordinary brackets with their ends rounded and volutes painted on their front faces.<sup>5</sup> On two vases the capital is divided by a vertical line,<sup>6</sup> suggesting that the volutes sprang upwards, independently, from the bottom of the capital, as in the examples from Athens and Delos already quoted.<sup>7</sup> Only on a very few

<sup>1</sup> On the François-vase the capitals are painted white, like the bases which are presumably stone. Sulze therefore (*AA* 1936 pp. 14 ff.) thinks that the capitals were also of stone. He is discussing two archaic Doric capitals from Agrigento and Tiryns, the first of which probably, and the second possibly, had a wooden shaft. He claims that stone capitals would be more practical than wood because they would protect the top of the shaft from damp, and because wooden Doric capitals are structurally unsound; and he suggests that stone capitals were fairly common. It seems to me that the shafts would usually be quite adequately protected by the overhang of the roof; and Bagenal tells me that there is no reason why Doric capitals should not be made of wood. Stone capitals above light wooden shafts seem a very awkward kind of construction. However, the capital from Agrigento seems to show that such a combination did sometimes occur, and the capitals on the François-vase may be a case in point. On a few other vases there are white capitals or abaci—e.g., B.M. B 335 (Doric) and Munich 1716 (Ionic). Sulze regards these also as stone. But of course they may be due simply to love of polychromy.

<sup>2</sup> E.g., B.M. B 330 and 333; Munich 1690.

<sup>3</sup> E.g., Treasury of Syracuse at Olympia, *Olympia*, Pl. XXXIV, Weickert p. 138; Basilica at Paestum, K. and P. pp. 13 ff. figs. 8, 9, 10, Perrot and Chipiez VII Pl. XXVI 1–8; Temple of Ceres at Paestum, K. and P. pp. 18 ff. figs. 17, 20, 21; Perrot and Chipiez *id.* Pl. XXVI 9–12. The capital from the Tomb of Xenares at Corfu has instead of leaves a thin vertical strip with the outlines of an egg-and-dart pattern engraved on it and its lower edge cut out to follow the pattern. The pattern was originally coloured. At first sight the egg and dart looks very like the tips of leaves.

<sup>4</sup> Munich 1693. Rapp had already noticed this. On a very fragmentary r.f. kylix lent to the Ashmolean there is a capital with the same kind of projecting strip under the echinus and painted on the strip a pattern which might represent either the tips of leaves or a simplified egg-and-dart pattern. (*CVA Oxford* fasc. 1 Pl. 14, 34.)

<sup>5</sup> E.g., B.M. B 334; Munich 1715 and 1716.

<sup>6</sup> Munich 1715; Louvre F 302 (here the volutes are suggested only by dots).

<sup>7</sup> See above, p. 160, note 5.

vases is the horizontal part of the volute-member, as it appears in normal Ionic, suggested.<sup>1</sup>

On one vase there are Ionic capitals with no abacus: <sup>2</sup> once the sides of the abacus are rounded, though this is in a particularly careless drawing; <sup>3</sup> normally there is an abacus which widens towards the top. The abacus



FIG. 7.—HYDRIA, MUNICH 1693.

<sup>1</sup> B.M. B 332, Würzburg 317 and Bari 3083 have a line joining the top of the inner curve of the volutes; in the last two the curve of this part of the volute-member is suggested by a curved line close up against the abacus. The two capitals on Würzburg 317 are drawn quite differently from each other, which shows how unsafe it is to rely too much on vase-paintings. Similarities in the shape and decoration of the vase, and in the drawing of figures and of architectural details show that B.M. B 329, Würzburg 316 and 317, Bari 3083 and the fragment in Florence are by the same hand. Perhaps also B.M. B 332.

<sup>2</sup> B.M. B 332.

<sup>3</sup> Munich 1716.

would be a second, longer piece of wood laid on top of the first to make a bigger surface for the architrave to bear on, and so to decrease the strain on it; so that widening at the top would be structurally sound.

Capitals which cannot be explained as either Doric or Ionic are very rare. A fountain-house on a cup in Taranto<sup>1</sup> has a column with a capital which seems to consist of the following members (from below upwards): a disc, a narrow neck, a nearly complete sphere with a band of zigzag pattern round the middle of it, another disc and another narrow neck. The narrowness of the necks must be exaggerated; the profile of the sphere and the disc may have been suggested by a leaf capital something like the votive capital from the Acropolis,<sup>2</sup> though more bulging; the disc would be the out-turned tips of the leaves. On a very carelessly-painted lekythos in the British Museum<sup>3</sup> is a capital like an inverted bell, perhaps again suggested by a leaf capital, but more probably only a very careless rendering of Doric.<sup>4</sup>

Except for the capitals, there is no distinction between Ionic and Doric columns. Both are used indiscriminately with entablatures of Doric or of no particular order. Neither have bases, except on the François-vase, whose Doric columns stand on apparently rectangular bases, presumably stone, to keep the wooden shafts from being rotted by the damp. The curious column on the cup in Taranto, mentioned above, has also a very low base. This, however, was an unusual precaution. Presumably the floor, whose edge served as stylobate, was usually slightly tilted so that the water drained off at once; or else sunk in the middle, so that a continuous slightly-raised stylobate was left at the edge.<sup>5</sup>

The floor, when it is shown at all, appears as a narrow, rectangular strip, representing a stone step;<sup>6</sup> sometimes there is instead a thicker block, which can be used as a stand for pitchers,<sup>7</sup> and occasionally a series of steps.<sup>8</sup> The columns stand either on the step or stand, or else on the ground beside it.

Walls are usually plain, without anta-capitals. The François-vase has anta-capitals with mouldings and a painted or carved leaf pattern.<sup>9</sup> On

<sup>1</sup> Taranto, cup of Siana shape.

<sup>2</sup> *AD. I.* pl. XXIX, 1; Perrot and Chipiez VII, p. 573, Fig. 5.

<sup>3</sup> B.M. B 672.

<sup>4</sup> The painter of the Taranto cup was interested in capitals; at the other end of the same picture is an isolated column with a very exactly-drawn Aeolic capital.

<sup>5</sup> Leyden, 14 c, 48. See Beazley, *ABS* p. 26 note 4.

<sup>6</sup> *E.g.*, B.M. B 333; Madrid 10924.

<sup>7</sup> *E.g.*, B.M. B 334; Berlin 1908.

<sup>8</sup> *E.g.*, B.M. B 331; Berlin 1910.

<sup>9</sup> I cannot believe that these are really separate rectangular pilasters (*FR* text I pp. 56 f.); I know of no example of such pilasters used in the same row as columns. Buschor's explanation (*AM* 1922 p. 84) seems to me much more plausible: that the object, platform or basin-rim, on which Rhodia is standing, was really inside the house, close to the spouts, but that Klitias moved it partially outside because there was no room for a figure inside, regardless of the fact that in an actual building this would involve a gap in the wall.

other vases there are walls which look as if they ended in engaged columns with capitals; but this does not seem to have been a Greek practice in archaic times<sup>1</sup> and it seems best to explain the columns as really prostyle, overlapping and blotting out the wall-ends. On some vases the scheme has been copied without much understanding, so that spouts seem to be actually fixed to the columns.<sup>2</sup>

The entablature varies. Often it belongs to no particular order of architecture. It may consist of a plain black strip, or two or three strips,<sup>3</sup> some of which may be painted white or red, or decorated with patterns. Two British Museum vases have incised zigzags, the cup in Taranto an egg or leaf pattern, and the New York Troilos cup a row of white rosettes.<sup>4</sup> Vallois is inclined to regard a Doric entablature as the rule, and thinks that these non-Doric examples may be an inside or profile view of the entablature.<sup>5</sup> But in the two British Museum vases the non-Doric frieze appears under a pediment, and therefore is thought of as outside and in front. Vallois himself says that it was in small buildings like fountains that there was most scope for originality; and it seems to me unlikely that their builders would confine themselves to one type of entablature. A Doric entablature, however, is most usual.

Any details of the structure of the entablature to be gleaned from vases would be of enormous interest, for the vases are virtually our only source of information for Doric architectural forms carried out in wood. We know that in temples of the seventh-century wooden or partially wooden entablatures were at least as common as stone; the third Heraeum at Olympia,<sup>6</sup> the temple of Athena Pronaia at Delphi,<sup>7</sup> the Heraeum at Argos,<sup>8</sup> the second temple of Apollo at Thermon,<sup>9</sup> all had wooden entablatures; but we know nothing about the structural details of any of them. In monumental architecture wooden entablatures had disappeared by the time the vases were painted, and their forms had been already translated into a fixed pattern in stone; but one would expect the original carpentry technique to persist in small buildings such as fountain-houses. The vases are, however, very disappointing. The entablature is usually squeezed up against the top

<sup>1</sup> The only known early example of this in Greece, Treasury X at Delphi (Weickert p. 130), is of imported stone, and may have been made by craftsmen imported from Magna Graecia. Engaged columns are found in temple D at Selinus.

<sup>2</sup> Berlin 1843. On two vases, Vatican (Alinari 35777) and Louvre F 296, there are half-columns attached on each side of the central wall; such an unlikely arrangement is surely another indication that walls with spouts on both sides did not really exist, and that the painter was forced to invent their decorative details for himself.

<sup>3</sup> E.g., B.M. B 330 and 335.

<sup>4</sup> B.M. B 330 and 335; Taranto, cup of Siana shape (see above); New York G.R. 521.

<sup>5</sup> *RA* 1908 p. 384. If triglyphs were still the ends of real beams, they would, of course, occur only on opposite sides of the building.

<sup>6</sup> Weickert p. 39.

<sup>7</sup> *Id.* p. 45.

<sup>8</sup> *Id.* p. 42.

<sup>9</sup> *Id.* p. 50.

of the picture, where there is little room left for it, so that it has to be compressed in various ways. The architrave is often omitted altogether or reduced to a very thin line, for, as Vallois remarks, the undecorated elements always tend to suffer most. If it is very narrow there is no room for reglets at the top of it, and they are sometimes attached to its lower edge in a very precarious manner,<sup>1</sup> sometimes indicated by groups of dots which take up almost the whole width of the architrave.<sup>2</sup> Whether the entablature is compressed or not, details are usually rendered with such variety that one can only attribute their curious forms to the carelessness of the painters, who were primarily interested in making a cheerful pattern, and must often have copied one another's drawings and exaggerated the mistakes. Triglyphs may be plain rectangles;<sup>3</sup> or they may have incisions<sup>4</sup> or thin lines<sup>5</sup> to represent their markings; if so, they are often wider than the metopes (again the part which has a pattern is enlarged at the expense of that which has none). The metopes are usually plain, but in one fragment from the Agora<sup>6</sup> they are thickly outlined and filled with saltires. The reglets, if there are any, often appear under the metopes instead of under the triglyphs.<sup>7</sup>

The only completely and carefully drawn Doric fountain-house is on the François vase, and it tells us almost nothing that we did not already

<sup>1</sup> *E.g.*, B.M. B 329; cf. the white ground lekythos in the Louvre, Rayet-Collignon Pl. XI. Probably, as Vallois says, the taenia at the top is here made to do duty for the whole architrave. Bagenal (*AAJ* Aug. 1936 p. 89) thinks that this may represent a real arrangement; the reglets would be the ends of thin planks, fastened with pegs, the guttae, to the under-side of the architrave, and perhaps used to hang things from (as in the Apulian volute-crater, Buschor fig. 160). But, even so, one must assume that the architrave has shrunk to negligible proportions, so that it is hardly less drastic to imagine that all but the taenia has vanished. In the second place, this would, as he says, involve regarding the capitals as brackets, not true Doric capitals, since the reglets project in front of them. And in the third place, on the François-vase the reglets are in the position in which they are found in normal Doric; so that it seems that the arrangement found in B.M. B 329 can only be an artistic abbreviation. On the other hand, the function of reglets in wooden Doric architecture is hard to explain. Bagenal thinks that there is another possible solution in an idea of H. W. Richmond, that the architrave was originally formed by two beams lying side by side, that the taenia was the front edge of a plank which lay above them, and the reglets small pieces of wood notched into the plank and pegged to the beams, so that these were firmly fixed together. If this is the true solution, the spacing of the reglets would of course originally be quite independent of that of the triglyphs, as it sometimes is on vases.

<sup>2</sup> *E.g.*, B.M. B 334.

<sup>3</sup> *E.g.*, B.M. B 329 and 332; Würzburg 316, 317; probably they often were plain.

<sup>4</sup> *E.g.*, B.M. B 334.

<sup>5</sup> *E.g.*, Vatican (Alinari 35777); Berlin 1843 and 1908.

<sup>6</sup> Agora P 2642.

<sup>7</sup> *E.g.*, Vatican (Alinari 35777); B.M. B 329; Würzburg 316, 317; probably only because there is more room for them and because they make a more balanced pattern under the metopes which are white.

know from architectural remains. It has a normal triglyphon, with reglets under the triglyphs, and a cornice with mutules<sup>1</sup> which are alternately large and small, and have four and three guttae respectively; such inequalities are characteristic of several actual sixth-century buildings.<sup>2</sup>

I believe that a few vase-paintings, in which the triglyphs are narrow



FIG. 8.—HYDRIA, B.M. B 333.

black rectangles and the spaces between them unpainted, show the triglyphon in its earliest and simplest form, when the spaces between the ends of the tie-beams which formed the triglyphs were left empty and not boarded

<sup>1</sup> These do not occur in any other vase-painting of a fountain.

<sup>2</sup> *E.g.*, the Hecatompèdon (Weickert p. 98; Wiegand Pl. I); the earlier temple of Aphaia at Aegina (Weickert p. 95, *Furt. Aegina* Pls. LX, LXII).



up to make metopes.<sup>1</sup> On a hydria in the British Museum (Fig. 8)<sup>2</sup> an aryballos is hanging from a string which passes over the architrave and between two triglyphs, so that the metopes must be open. In the same way, on a black-figure pinax in the Acropolis Museum<sup>3</sup> the spear of Athena, who is sitting inside a little building, can be seen continuing between two triglyphs. But the evidence is admittedly slight, as the pinax is not painted



FIG. 9.—HYDRIA, MUNICH 1690.

with particular care and the frieze on the hydria is an example of a type where architrave and tie-bar are fused together,<sup>4</sup> so that the aryballos may really be thought of as hanging from the bar, and not from the architrave.

Some of the vases show a pediment, or part of one (Fig. 9), so that the

<sup>1</sup> E.g., B.M. B 333, 336; Vatican (*Mus. Greg.* II Pl. IX, 2B).

<sup>2</sup> B.M. B 333.

<sup>3</sup> Graef 2549, Heft IV Pl. CV p. 248.

<sup>4</sup> See above, p. 160, note 2. So is the frieze on the other vases quoted in note 1.



building must have had a gabled roof.<sup>1</sup> Others apparently have flat roofs, though this may sometimes be because the painter is not showing the whole of the house. Where there are pediments, the bottom of the pediment is usually on a level with the top of the picture, and the pediment itself projects, often rather disturbingly, into the next band of decoration above.<sup>2</sup> It must often have seemed simpler to cut off the building at the entablature. Probably gabled roofs were more common than flat roofs, for a sloping roof could be covered with tiles or thatch, whereas a flat roof would be made of rammed earth over very solid beams, and would be heavy for light columns to support.<sup>3</sup>

A few of the pediments have curved outlines,<sup>4</sup> and are explained by Bagenal, I think very satisfactorily, as examples of thatched roofing, probably covered with clay.<sup>5</sup> He thinks that the buildings represented by the Heraeum and Perachora models were roofed in the same way.<sup>6</sup>

The pediment usually ends at its side angles in upward-curving volutes which form acroteria.<sup>7</sup> Benndorf<sup>8</sup> cites as parallels the fragments of painted marble acroteria from the Acropolis,<sup>9</sup> and derives the form from boards nailed as facings to the ends of a beam which lay along the lower ends of the roof-planks, to fasten them down; just as, according to his view, the round central acroterion which is common in the Peloponnese developed from the facing of a hollowed beam which lay along the top of the ridge.<sup>10</sup> In a thatch technique the derivation is not obvious; Bagenal thinks they were spontaneous decoration modelled in clay; and Ashmole once suggested that they might derive from twists of grass decorating the corners of a thatched roof. The volutes must early have become a regular motive; we already found them on one of the fountain-models from Lemnos. The only other examples of which I know, besides those on vases, are a marble sarcophagus in the form of a building, in Samos, dated in the third quarter of the sixth

<sup>1</sup> The painter is not greatly troubled about which way the pediment really faces, and even adds pieces of pediment to the 'shorthand' type of fountain (see above, p. 22), e.g., B.M. B 330; Munich 1690; and to 'double' fountains, e.g., B.M. B 334, 335.

<sup>2</sup> E.g., B.M. B 334, where the Nike and the seated woman look at first sight as if they belonged to the same scene.

<sup>3</sup> I therefore regard the curious domed roof of the François vase fountain as an abbreviation of a pediment, as Furtwängler does; though Orlandos (*Ephem.* 1916 p. 102) thinks it is a stamped-earth roof, slightly domed to let the rain drain off.

<sup>4</sup> B.M. B 334 and 335; Agora P 2642.

<sup>5</sup> *AAJ* 1936 pp. 110 ff.

<sup>6</sup> Perhaps also the house model in Samos *AM* 1930 p. 17. Thatching does not seem to be used on any permanent buildings in Greece to-day, but in Epirus I have seen round Vlach huts built entirely of a very regular thatching of leaves.

<sup>7</sup> E.g., Leipzig frag.; Madrid 10924; Munich 1690; B.M. B 330, 334, 335; Würzburg 317.

<sup>8</sup> *Jahresh.* 1899 pp. 16 ff., esp. p. 35.

<sup>9</sup> Wiegand pp. 38 ff. Pl. I; Schuchhardt *AM* 1935 pp. 1 ff.

<sup>10</sup> It might, of course, equally well be the facing of the ridge-beam.

century; <sup>1</sup> a small oikos, fragments of which were found at Selinus; <sup>2</sup> and a terracotta sima of which many fragments were found at Kalabak Tepe, near Miletus, <sup>3</sup> belonging to the last quarter of the century. These, the smaller of the Acropolis volutes, and one of the paintings <sup>4</sup> have in common a palmette which fills and strengthens the angle between volute and sima. (On one vase <sup>5</sup> the volutes are the ends of two red strips which run up the sides of the pediment and join at the top, where they curl down and form two more volutes. The same thing happened at the apex of the pediment of the Samian sarcophagus, and perhaps of the pediment at Kalabak Tepe. In the Hecatompodon pediment the two strips crossed and their ends curved upwards, probably into small volutes.<sup>6</sup>)

A fragment from the Agora <sup>7</sup> has a panther's head acroterion at the apex of the pediment. It is fixed rather low, so that most of it is actually inside the pediment, and so that it might quite well be really the facing of the ridge-beam. Round acroteria at the apex of the pediment are, of course, not at all uncommon in the Peloponnese, but I know of none which has anything but formal geometric decoration. Panthers' protomes occur on the acroteria from the sides of the roof at Neandria.<sup>8</sup>

Other acroteria, which have parallels from actual buildings are the little, prancing horses above the volutes on the Leyden hydria,<sup>9</sup> and a flying Nike as the central acroterion on a British Museum hydria.<sup>10</sup>

There is sometimes a disc in the middle of the pediment,<sup>11</sup> for a circle is the shape which fits most conveniently into a triangle. The corners may be filled with serpents,<sup>12</sup> probably again simply because the corners of a pediment are difficult to fill, and serpents' bodies fit the space well, as the

<sup>1</sup> *AM* 1900 p. 204 and 1933 p. 41. Here the volute is a separate addition, not the end of the sima or of the band at the top of the sima.

<sup>2</sup> *Mon. Linc.* 1935 col. 150 Pls. I, III, IV, V. Gabrici suggests no absolute date for this building, but says it is 'antichissimo.' The way in which the roof-tiles fit under the back of the raking-cornice is, as he points out, paralleled in the Megaron of Demeter at Selinus. This is dated by Koldewey and Puchstein in the early sixth century (pp. 80, 231 ff.).

<sup>3</sup> *Milet* I 8 pp. 16 ff.

<sup>4</sup> B.M. B 330.

<sup>5</sup> Würzburg 317.

<sup>6</sup> Schrader *Archaische Marmorskulpturen im Akropolismuseum zu Athen*. pp. 8 ff.; *Jahrb.* 1928 pp. 54 ff.; Schuchhardt *op. cit.* pp. 31 ff.

<sup>7</sup> Agora P 2642.

<sup>8</sup> Koldewey *Neandria* p. 46.

<sup>9</sup> *E.g.*, the Athenian Treasury at Delphi, *F de D*, IV 1 Pl. XLVI.

<sup>10</sup> B.M. B 334. In the B.M. catalogue and the *Corpus* the figure is called Eris, and is said to belong to the picture on the shoulder of the hydria; but as this picture is disjointed and unexplained, and as the leg of the figure actually touches the pediment, she is much more likely to be an acroterion; cf. a figure as acroterion on Acrop. frag. 2549, Heft IV. Pl. CV p. 248. For real Nike acroteria cf. Acrop 690, 691, 693, 694, and the Nikes from Delos and the Alcmaeonid temple at Delphi. See Eduard Schmidt *Jahresh.* 1920 pp. 97 ff.

<sup>11</sup> *E.g.*, B.M. B 334 and 335; Leyden 14e, 28; Torlonia Coll (r.f.)

<sup>12</sup> *E.g.*, B.M. B 330; Leyden 14e 28; Agora P 2642; cf. later (r.f.) vase p. 58 (Bibl. Nat. 940).

makers of several of the poros pediments on the Acropolis realised.<sup>1</sup> But as snakes love cool, damp places, they are particularly suitable for the pediment of a fountain. Only once is there a figure inside the pediment—a satyr in a curious crouching position which suggests that he is derived from some larger composition.<sup>2</sup>

On the whole, the façades of these fountain-houses give the impression of being rather elaborately decorated; this is probably because fountain-houses cut out in the rock, or set back into a terrace, had no side walls to receive outside decoration; and others often only projected slightly and had short, unimportant side walls; so that often the façade must have been virtually all that there was to decorate.

Fountains on vases other than Attic are not common, and do not give any real insight into local types. The Corinthian Timonidas vase,<sup>3</sup> probably our earliest vase-painting of a fountain, shows a spout in a masonry wall; so does the Chalcidian Phineus cup about fifty years later;<sup>4</sup> though here the wall is built of smaller blocks, as in Attic black-figure. Another, earlier Chalcidian fragment<sup>5</sup> shows two walls with spouts, in profile, one behind the other; one of the walls must really represent the side wall of the building, moved round 90°, or the further half of the same wall, moved forward so that both of the spouts may be visible.

The only fabric which has any types different from Attic is the Lakonian; and here of three examples none shows spouts. One occurs in a Troilos scene, on a dinos in the Louvre;<sup>6</sup> it is a little hut, made apparently of masonry, which is indicated by horizontal incisions; no doorway is visible, so that the hut might be a closed cistern built against a terrace, like that in the Amphiareion.<sup>7</sup> Typically Peloponnesian is the round central acroterion, like that of the Heraeum at Olympia, for instance, and the fragment found at Bassae, which had the Lakonian pomegranate-frieze among its other decorations.<sup>8</sup>

The second again represents Achilles lying in wait for Troilos,<sup>9</sup> for in the exergue is Polyxena, with a pitcher on her head, and a horse which must belong to Troilos.<sup>10</sup> The building is seen from the side, and has side walls and prostyle Doric columns, of which naturally only one is visible; the roof

<sup>1</sup> Wiegand Pls. IV, V, VIII fig. 213.

<sup>2</sup> Leipzig frag.

<sup>3</sup> Athens 277; first quarter of the sixth century (Payne *Necrocor.* p. 73).

<sup>4</sup> Würzburg 354.

<sup>5</sup> Reggio, inv. 1169.

<sup>6</sup> Louvre E 662. Lane *BSA* 1933-34 pp. 146 and 164.

<sup>7</sup> See below, p. 182.

<sup>8</sup> Weickert, p. 30; *BSA, Artemis Orthia* pp. 118 ff.

<sup>9</sup> Unpublished fragment found by the German Institute, at Samos. Inst. Phot., Samos 1600.

<sup>10</sup> That the story has been so 'ruthlessly cut' that the most important person in it is relegated to an exergue; and that the space behind Polyxena is filled with a quite irrelevant cock, is typical of the mythological scenes on Lakonian pottery. *JHS* 1932 p. 26.

is flat and without ornaments. The walls are of masonry, shown by a chequer pattern, as in Attic.<sup>1</sup>

The building on the third <sup>2</sup> is of the same plan and material, and is also seen from the side; but the column stands on a base of masonry blocks, and its capital is composed of three superimposed tori. Above the column and cella wall runs an architrave painted with a pattern of two rows of rectangles, probably suggested by beam ends; the roof is like that of the Louvre dinos and has the same kind of acroterion.<sup>3</sup>



FIG. 10.—KYLIX, B.M. E 13.

I have spoken of black-figure vase-paintings all together because they form a more or less homogeneous series; actually the later vases are, of course, overlapped by early red-figure and by a few remains of real fountains.

<sup>1</sup> The lower part of the walls and of the column are broken away.

<sup>2</sup> Louvre E 669.

<sup>3</sup> A fragmentary kylix in London with part of a kneeling warrior, and, in the exergue, the hindquarters of a horse; and a fragment from the exergue of a similar kylix, by the same hand, in Samos, led Lane (*BSA* 1933-34 p. 164) to the conclusion that Louvre E 669 was probably an abridged Troilos scene. The new Samos kylix, which is very like Louvre 669 in composition and details (in both there are birds on the roof of the house, a snake in front of it and a bird behind the warrior) confirms his view.

Lane considers that Louvre 669 is shortly after the middle of the century; and that the London and the first Samos fragment are about thirty years earlier; the new Samos kylix would be between the two.

The Hypsis hydria in the Torlonia Collection,<sup>1</sup> a 'double' fountain with large volute-acroteria, has already been mentioned in connexion with black-figure, to which it is closely related. A kylix in the British Museum<sup>2</sup> (Fig. 10) of about the same date, shows the usual, conventional type of fountain; but the spout, a mule's head, is fixed to a thick upright member, presumably a cistern. There is a high step in front, with a slightly raised stand for pitchers. The column which supports the roof is very thin and without any diminution; it stands beside the step on a very wide, almost hemispherical stone base, and must certainly be made of wood. At the top of the shaft there is a horizontal band with the beginning of two vertical lines above it, perhaps the remains of a leaf pattern; but the capital and the lower part of the entablature are broken away. The architrave is apparently very thick; the reglets are drawn above it, on the frieze, in one piece with the triglyphs.<sup>3</sup>

Peisistratos, according to Pausanias,<sup>4</sup> 'adorned with nine spouts the fountain of Enneakrounos,' probably some time after his final return in 546. There are so far three possible candidates for Enneakrounos; one excavated by Dörpfeld at the foot of the Pnyx, in front of Kallirrhoe; another in the bed of the Ilissos;<sup>5</sup> a third recently discovered by the American school, in the agora.<sup>6</sup> I do not propose to enter into the much-vexed question of which is really Peisistratos' Enneakrounos, but merely to describe very briefly what is left of the most complete of the three.<sup>7</sup>

The site of Dörpfeld's Enneakrounos<sup>8</sup> was re-used in Roman and Byzantine times for building houses, and many traces of the fountain-complex were thus obliterated; and the adequate excavation of much of the site was prevented by its lying under the modern roadway. Consequently Dörpfeld's and Gräber's restorations had to be to some extent merely conjectural. Some elements, however, can be deduced with certainty, from stones and from cuttings in the rock. The water, which came from the direction of the theatre in a rock-cut tunnel, entered first a small clearing-

<sup>1</sup> About 510 B.C.

<sup>2</sup> B.M. E. 13.

<sup>3</sup> There is a plain profile fountain spout on a hydria-kalpis of about this date in the British Museum (E 159), painted by Phintias. On a fragment of an early red-figure krater in Delos, are preserved a fine profile spout and some distance in front of it, the top of a Doric column. A very fragmentary r.f. hydria in Taranto has on the shoulder girls drawing water from a tubular spout; of the scene on the body of the vase nothing is preserved but a lion's-head fountain-spout.

<sup>4</sup> Pausanias I 14, 1: πλεσιόν δὲ (to the Odeion) ἐστὶ κρήνη, καλοῦσι δὲ αὐτὴν 'Εννεάκρουνον, οὕτω κοσμηθεῖσαν ὑπὸ Πεισιστράτου.

<sup>5</sup> Perrot and Chipiez VIII p. 33.

<sup>6</sup> *Hesperia* 1935 p. 360, Pl. III.

<sup>7</sup> Practically all traces of the Ilissos fountain were swept away by a flood in 1896. The American Enneakrounos has not yet been published. Wachsmuth (*Pauly-Wissowa, Supplement I* pp. 211 ff.) opposes Dörpfeld's view, Judeich (pp. 193 ff.) supports it.

<sup>8</sup> Gräber *AM* 1905 pp. 33 ff.

basin,<sup>1</sup> where much of the sediment and impurities in it would be deposited, and then a reservoir. In front of the reservoir was at least one long, narrow draw-basin. On the opposite side of the cistern to the inlet was a large, roughly rectangular open space, half a metre below the level of the floor of the reservoir and two metres below its probable water-level; this would be low enough to let water flow out through the walls of the reservoir from quite high spouts, and here Dörpfeld locates Peisistratos' fountain with nine spouts. Underground drains for carrying off water in the direction of the street drain tend to confirm his view that there was a spout-fountain here.

Three stones found in the neighbourhood obviously belonged to a fountain. One<sup>2</sup> has part of a channel cut in it and is of poros, like part of the underground channel which brought the water, and so is probably contemporary with it. Another,<sup>3</sup> a wall-block of Acropolis limestone, has a hole through it and a cutting for in-setting a very large lion's-head. The third,<sup>4</sup> of Kara limestone, like the foundations of the Peisistratid pteron of the Hecatompodon,<sup>5</sup> has the characteristic marks made by the scraping of pitchers, and holes in its top surface for balancing pointed amphoras in before lifting;<sup>6</sup> it must have been the front parapet of a draw-basin. At one end, in its top surface, is a cutting for a L-clamp, which confirms its early dating; in Attica such clamps are found only in early buildings, such as the Peisistratid Propylaea.<sup>7</sup> At the other end, a cutting nearly a quarter of a circle in plan runs the whole height of the stone; Gräber explains it as a cutting for a column the lower part of which was engaged. Beyond the fact that the fountain had at least one spout, at least one draw-basin, and probably some partly-engaged columns, we know nothing about its architecture, and Dörpfeld is forced to base his reconstruction on a vase-painting.

Towards the end of the century, judging from the stylistic affinities of the spouts,<sup>8</sup> was built the small fountain in the agora at Corinth<sup>9</sup> (Pl. 24a). Probably the spring had been in use for some time, since it oozed out in a cavern which formed a natural fountain-house, but about this time it was

<sup>1</sup> Cf. Elderkin *AJA* 1910 pp. 46 f.

<sup>2</sup> Op. cit. fig. 32.

<sup>3</sup> Op. cit. fig. 30.

<sup>4</sup> Op. cit. fig. 31.

<sup>5</sup> Wiegand p. 50.

<sup>6</sup> In vase-paintings, hydriae of various shapes are almost always used for fetching water; pointed amphorae, however, do sometimes occur, always, I think, carried by men—e.g., Vatican (*Mus. Greg.* II. Pl. XI 2a), Berlin 2173 and 4027; see Fölzer pp. 6 ff. For drawing water from deep wells, amphora-shaped, metal pots with moveable basket-handles are used (cf. Milan, Castello Sforzesco O 6504, *RA.* 1933 pp. 154 ff., and the other vases illustrated in this article) and once (Berlin Antiquarium, inv. 3228, Pfuhl, fig. 276) pelikes with extra basket-handles, probably detachable and made of rope or metal.

<sup>7</sup> Weickert p. 171.

<sup>8</sup> See below, p. 195.

<sup>9</sup> *AJA* 1902 pp. 306 ff. (Richardson). Fowler's account in *Art and Archaeology* 1922 pp. 213 ff. is more confident, but naturally gives no references; a summary of the evidence for his chronology is much to be desired.



given a more regular plan. A wall was built across the back of the cave, and others against its sides, forming a rectangular room with the front left open; the roof was still of bare rock. The part of the cavern which lay behind the back wall (quite a small space, since the roof here slopes down very sharply) was floored with blocks, and grooves were scooped out in the floor, lined with bronze wherever they passed over joints between the blocks.

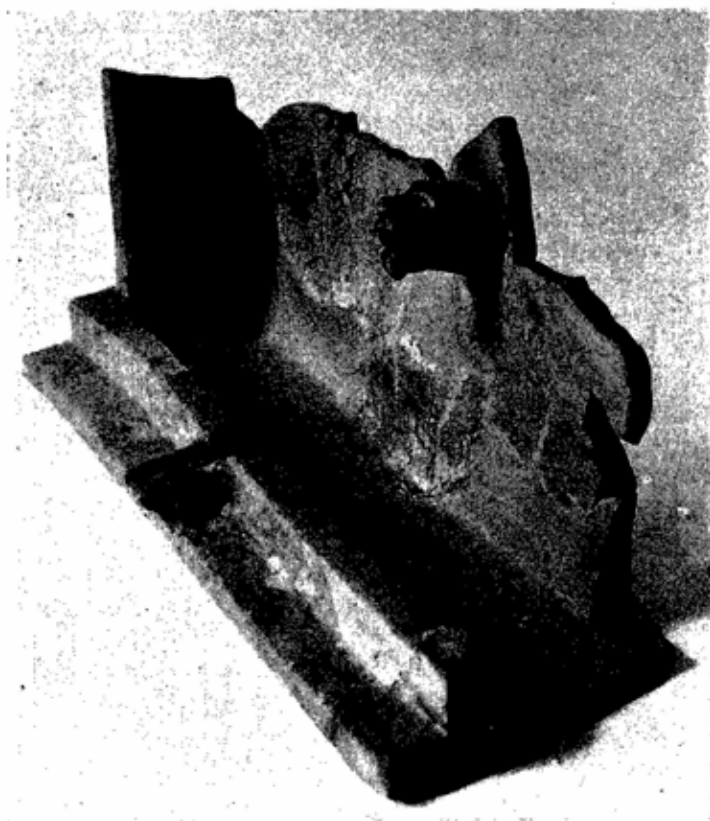


FIG. 11.—FOUNTAIN-MODEL FROM HEPHAESTIA.

Two of these grooves still lead to bronze spouts fixed in the wall; a third spout was removed at an early date (since there is no space for a pitcher in the gutter underneath), and the opening where it had been was patched with a block of stone. Round all three sides of the room runs a gutter, which widens out under the two spouts into roughly semicircular places for pitchers. It was prolonged on each side beyond the side-walls of the cave, and ran out into a rectangular cemented basin in the ground in front of the cave. There are marks of pitchers on one side of the basin.

The fountain is interesting partly because of its early date and amazing preservation and the fineness of its spouts, and partly because it shows signs of having been very little used; it was probably connected with the small apsidal temple on the terrace above, and was only accessible to the temple officials.

Our only other evidence of a spout-fountain belonging to this century is the latest of the Lemnian fountain-models (Fig. 11).<sup>1</sup> This seems definitely Greek in type, so that Della Seta attributes it to the second half of the century, after the overthrow of the Tyrrhenian domination. It has a shallow, rectangular basin, with a spout in the middle of its very low front wall. In the back wall were two spouts, one, a roughly modelled lion's head, still in position. There are very short side-walls. As the model is broken away above the spouts, it is not possible to tell whether it had a roof.

The fountain on the temple terrace at Delphi (Fig. 12)<sup>2</sup> is the earliest and most unassuming of a group of fountains which consist of a nearly square basin approached by a descending flight of steps. Usually in these the water oozes up from a natural spring in the basin; but at Delphi it is brought in a conduit from a cistern under the temple-foundations, where the water from an underground spring was collected. The conduit and the fountain all form part of the same construction, and since the back part of the conduit is built actually among the foundations of the Alcmaeonid temple, it must be contemporary with them.<sup>3</sup> The basin is nearly square, and very shallow. The water flows into it through a small hole low down in the back wall, and out again by a rectangular cutting through the three lowest steps. Here it rejoins the main conduit, which makes a detour to avoid the basin, running outside the back wall, and turning at right angles along the side wall. Under the steps it turns again, so that it is now more or less in a line with its original course, and continues as far as the polygonal wall, where it ends. There is a hole in the wall, in which a spout must have been fixed. Although the water from fountains must often have flowed on to feed other fountains at a lower level, this is the only actual example we have of such a practice. There are no traces of any roof or superstructure; the level of the terrace was higher when the fountain was built, and there must have been several more courses of the slabs which form the retaining-walls round the steps and basin. These slabs are re-used from the pre-Alcmaeonid temple of Apollo, but the cuttings for swallow-tail clamps in their top surface are contemporary with the building of the fountain and corroborate its early date, since they are most usual at Delphi before 500.

<sup>1</sup> *ILN* Feb. 28, 1931 p. 330.

<sup>2</sup> *F de D* II 1 pp. 171 ff. Figs. 128-39.

<sup>3</sup> Probably soon after 548. Courby, p. 110, says that the temple was begun soon after the burning of the old temple, and the Alcmaeonids only finished it. Naturally the foundations would be the earliest part to be built. The steps and walls of the fountain may not be so early, but must be no later than the polygonal wall, in the last third of the century.



A rectangular basin in the Asklepieion at Paros,<sup>1</sup> supplied by a spring oozing from the rock which forms one of its sides, must belong to the sixth

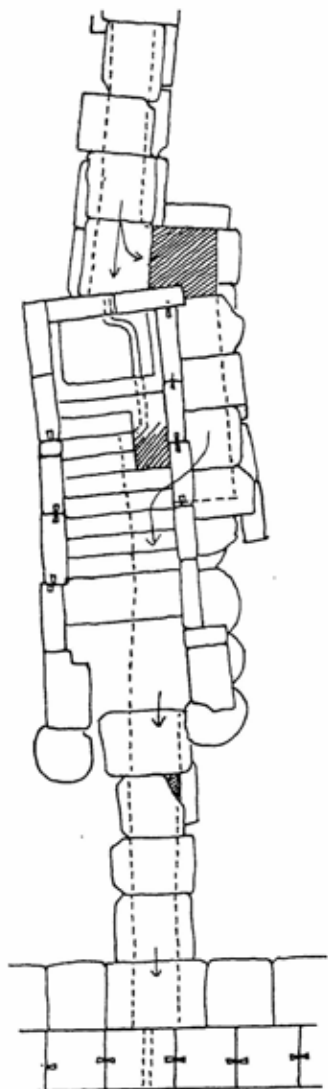


FIG. 12.—DELPHI FOUNTAIN ON THE TEMPLE TERRACE.  
After *F de D II*, 174 Fig. 132.

century, since it fell into disuse in the fifth, when a new basin was built. It is sunk in the ground and paved with gneiss slabs, with which three of its sides are also lined. Architecturally it is not remarkable.

<sup>1</sup> *AM* 1902 p. 200 (Rubensohn).

*Fifth Century.*

I propose to deal first with the indirect evidence, which is far from plentiful, and then with the still more scanty existing remains; there are, as far as I know, no actual remains of any fountains of this period (at least not in an intelligible condition) except of the kind which consists of a basin in the ground.

On red-figure vases of the archaic period fountains are not at all common, and usually very small and simplified. Roughly speaking, black-figure painting lends itself to decoration consisting of many small elements, red-figure to broader and more massive treatment; the black-figure painter thinks in lines, the red-figure in spaces. Figures now fill out and are wider in proportion to their height; and the space to be decorated tends to be covered with a group forming a larger and more continuous pattern. Consequently there is no longer much room left for architectural elements; and the rigid lines of buildings no longer fit into the pattern so well as they did among the more angular forms of black-figure. This is, of course, a generalisation, and it is easy to find exceptions; but the tendency is clearly marked, and explains the very small part played by architecture of any kind in archaic red-figure vases. On the whole, therefore, their evidence is unhelpful for the fountains of their period.

Two sixth-century red-figure vases have already been discussed. There is another fountain on an early fifth-century kylix in the Louvre, by the Brygos painter.<sup>1</sup> The fountain-house, and even the spout, are largely overlapped by figures and trees and the handle of the vase. Obviously the painter was not greatly interested in the building and treated it very summarily. The entablature is compressed into a single strip, with very wide triglyphs with guttae attached; the lion's head is crushed up against the entablature and flattened till its height is barely half its width. The one remaining column is thick and tapers little, and is almost certainly made of stone; instead of a narrow neck it has a thick, abacus-like member with two fasciae at the top, and, above, a very low Ionic capital which has no echinus and whose cushion curves down in the middle to the level of the bottom of the volutes; apparently carved or painted decoration on a flat surface. Altogether the column is very rectangular in appearance, and may be an anta-column. The kylix is too broken for the plan of the house to be distinguishable, but it seems to have had a wall or column at each side and no other support.

There are fountains on two vases by the Berlin painter. One is a spout attached to a profile wall,<sup>2</sup> but the wall has no masonry pattern or vertical lines, as in black-figure. The other, a spout attached to a Doric

<sup>1</sup> Louvre. About 490-480 B.C.

<sup>2</sup> Leningrad, 1588. About 490.

column (Pl. 23),<sup>1</sup> is again a black-figure type; the column is thin and unfluted, and there is a leaf pattern round the neck of the shaft.

Another Doric column with a spout attached occurs on a pyxis of about 480, in Athens;<sup>2</sup> the column is short and thick, and has many flutes, and it must be made of stone; so probably stone columns were becoming common in fountain-houses.

A profile wall, or perhaps more probably a cistern, appears on a pyxis of about 460;<sup>3</sup> it has a plain tubular spout and, at the top, a border of metopes and triglyphs. The triglyphon is drawn very narrow, as there was little room for it; there are reglets under the metopes. The masonry is naturalistic and rather irregular, no longer the cheerful checquer-pattern of black-figure.<sup>4</sup>

Otherwise we know practically nothing of the fountains of the first half of the century. Pindar speaks of the 'bronze-gated water of Castalia,'<sup>5</sup> so that presumably at least as early as this there were bronze spouts; but, when we come to examine the actual remains, it is impossible to distinguish the original plan, and all we know is that the fountain was close against a rock cliff and fed by a spring which flowed from clefts in the rock.

About this time also, Pirene at Corinth<sup>6</sup> was adapted, and walls were built in front of the draw-basins, under the ledge of rock, dividing the space into six nearly square rooms. Apparently the rock was still left quite plain above the walls, and there was no attempt to decorate the façade in any way.

The second half of the century is hardly more profitable, and again tells us practically nothing about complete fountain-buildings, even though we supplement our evidence with examples from Magna Graecia. Several coin-series from Himera,<sup>7</sup> most of which belong to this half-century, though they begin a little earlier, show a lion's-head spout fixed to a rock face, with a rectangular basin underneath. A series from Terina,<sup>8</sup> in the last quarter of the century, shows a spout fixed to a stone wall, again with a trough underneath.

On two vases of about 430<sup>9</sup> is a type of fountain otherwise unknown (Fig. 13); a trough has been set on legs, or slabs placed endways, so that it is like a table; water pours out through tubular spouts in its front wall into pitchers which are placed below. The top of the trough is covered over (in the British Museum vase a girl has set down her pitcher on it). The back of

<sup>1</sup> Madrid 11117.

<sup>2</sup> Athens, Acrop. frag. 563.

<sup>3</sup> B.M. E 772.

<sup>4</sup> On a roughly painted pelike of about 480, in Athens (1425) (in the style of the Nikoxenos Painter), is an abbreviation consisting of two columns with an architrave and frieze above, and a spout close under the capital of one of the columns. On the shaft of each capital is drawn a thick black line which tapers towards the top and ends in what looks like a small capital; this must be fantasy.

<sup>5</sup> Pind. Paean VI. 7.

<sup>6</sup> *Art and Archaeology* 1922 p. 201.

<sup>7</sup> See p. 143, note 2.

<sup>8</sup> See p. 143, note 3.

<sup>9</sup> B.M. E 204 and Constantinople, inv. 2179.

the trough must have been close against a cistern or spring or a wall in which there were pipes. Such an arrangement would be an easy way of supplying water to several spouts at once, and at a convenient level. A fillet hanging on a wall suggests that the fountain is inside a building. The only actual house of which I know is on a South Italian crater which Trendall dates about 410.<sup>1</sup> Athena stands washing in front of a little building, whose



FIG. 13.—HYDRIA, B.M. E 204.

arrangement is not quite clear in spite, or because, of the painter's attempt to draw it in perspective. Apparently it is built against rock, as wavy lines all over the picture suggest a rocky landscape. The building stands on a low step; in front it has two columns, Ionic but without bases or fluting, with wide necking-bands inside which a palmette is painted. The back wall seems to end in antae, though only one anta-column is shown; it is identical with the free-standing columns. The roof looks as though it were curved, but this, I think, is due to an attempt at perspective. There are two spouts on the back wall of the house. The lower half of this wall is painted black, contrasting with the reserved upper half; perhaps the change

<sup>1</sup> Bibl. Nat. 422.

of colour indicates that the upper half was set back a little, leaving a small ledge, as in another, much later, South Italian vase.<sup>1</sup> The thin, untapering columns look as though they were made of wood.

A group of Hellenistic gems, which probably derive from a fifth-century original, show the corner of a box-like cistern,<sup>2</sup> a woman is drawing water from a spout high up in the cistern. The spout varies (lion's-head, mask, tube).

The actual remains are all of the basin-type, though one at least had a superstructure; and the date of most of them is difficult to ascertain.

The most interesting is the fountain on Delos (Fig. 14),<sup>3</sup> identified with

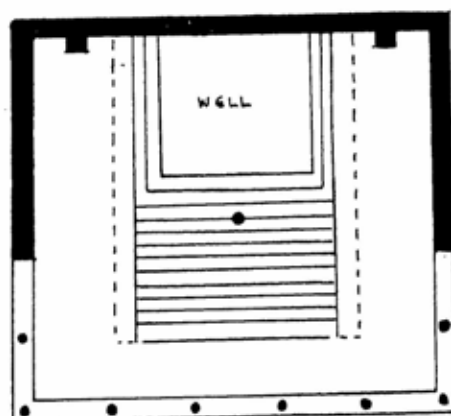


FIG. 14.—DELOS: RESTORED PLAN OF MINOE.

After *Delos* V, 103.

the Minoe mentioned in some Delian inscriptions. It consists, like the fountain at Delphi, of steps leading down to a rectangular basin, this time filled by springs inside the basin; but it is very much larger, and the whole complex was surrounded by a roofed rectangular building with stone walls at the back and sides, and along the front a colonnade, with a column returned at each end. The present columns are of late, probably Roman date, and stood on rough bases in the shape of a truncated cone; as these do not fit the existing columns, they must have been originally made for others; and since they are of different heights, the original colonnade was probably wooden, made of tree-trunks smoothed and left approximately the same length as when they were first cut up. There was also a thicker

<sup>1</sup> See below p. 182.

<sup>2</sup> Furtwängler *Die antiken Gemmen* Pl. XXXIX 26 and 27; and text p. 188; B.M. *Catalogue of Engraved Gems and Cameos* Pl. X no. 561; Beazley *Lewes House Collection* fig. 5 no. 134.

<sup>3</sup> *Délos* V 103.

column, with the same kind of base, on the third step, in the centre of the building; therefore the roof was probably pyramidal in shape with four main beams converging on a column. At a much later date, probably in the first century, the wooden columns were replaced by the existing stone ones; the remaining roof-tiles and the bench-like parapet across the steps, behind the central column, are also late. The date of the fountain in its original form depends on an inscription<sup>1</sup> which was found built into the parapet, but which must have been taken from the outside wall where there are other, similar blocks. The inscription contains prohibitions concerning the use of the fountain; the forms of the letters and the uncertainty of the spelling point to a date not later than the early fourth century; and as the fountain itself must have been built before the inscription was carved on its walls, it probably belongs to about the end of the fifth.

Two other fountains of roughly this shape I date tentatively to about this period. One at Corinth,<sup>2</sup> in the sanctuary of Asklepios, may be earlier, as de Waele says that it is lined with cement such as is found on other Corinthian water-systems of the sixth and fifth centuries. Four steps lead down to a small, rectangular platform; from this platform water could be drawn over a parapet from a narrow and deep tank. Another, more irregular tank at the side received the overflow, which ran off through a hole in the lowest step. Cuttings in the rock show that the fountain had side and back walls, but nothing of them remains. How the tank was filled is not known; some early terracotta water-pipes, which run across the temple platform and end under the steps, seem to have belonged to an earlier system and to have been cut through when the fountain was built; and de Waele suggests that the fountain depended on rain-water, though he does not suggest how this was collected.

The other fountain, at Tegea,<sup>3</sup> I include here because of the similarity of its shape; as far as I can see, it might belong to any time between about 550 and 350, since apparently the only evidence for its date is its double-T clamps.<sup>4</sup> Twelve steps lead down to a well, whose sides are built of large, irregular blocks arranged roughly in a square; the spring is in the ground at the bottom. The retaining-walls above the well are of regular blocks of stone, some with the bosses which were used for carrying them still left; the two topmost courses are orthostates, joined by clamps, and there must have been at least one more course above them, to hide the clamps. The water must have reached quite far up the steps; the sixth step from the bottom is a little broader than the others, and forms a platform from which the water was usually drawn; long blocks at each side, placed against the walls, like

<sup>1</sup> See below, p. 192, note 2.

<sup>2</sup> *AJA* 1933 pp. 423 ff.

<sup>3</sup> Dugas *Le Sanctuaire d'Aléa Athéna à Tégée*, p. 69, Figs. 26-27 Pl. LXXXI.

<sup>4</sup> Perhaps when the metal of which clamps are made has been analysed, and their size and proportions studied more carefully, a more exact dating will be possible.

the arms of a chair, served as pitcher-stands, and overflow-holes in one of these and in the front surface of the step would prevent the water from rising any higher. Of superstructure there is no trace.

A second basin in the Asklepion at Paros<sup>1</sup> was probably built about the end of the century. Like the earlier one, it is built close against an overhanging wall of rock, which forms one of its sides. The other three are retaining-walls of poros slabs, standing on top of a low course of marble blocks; and the bottom of the basin of very carefully joined marble slabs laid direct on the rock. How the water drained away it is impossible to tell, owing to the disturbed condition of the site.

#### *Fourth Century.*

Here again remains are scanty at the beginning of the century, but about the middle begins a series of stone basins, usually roofed and with columns, a type which continues into late Hellenistic and Roman times. Even in vase-paintings the fountains of the period seem to be of stone, though they usually have spouts and apparently no basins.

There is one fountain of an exceptional plan in the Amphiareion at Oropos.<sup>2</sup> A roughly square masonry cistern is built in a small artificial hollow in a slope of earth and rock. On one side of it, steps lead down from the terrace above, to a small passage which runs between the front wall of the cistern and a retaining wall opposite, so that passage and steps together are L-shaped in plan. The water flowed out of a bronze-lined hole in the lowest course of the front wall of the cistern, and drained away through a square hole in the wall opposite. The roof and top courses of the cistern have now gone. Leonardos dates it in the fourth century.

The earliest more closely datable fountain of the century is on a South Italian bell-crater,<sup>3</sup> which seems to belong to the first quarter.<sup>4</sup> The fountain is in the background and on a very small scale; it is a house with side walls ending in engaged Ionic columns, with a free-standing column in antis between them. The roof is gabled, with two snakes and a palmette for pedimental decoration, and palmette acroteria, with a snake-like object on each side of the central acroterion; for this I know no parallel. From two spouts of indefinite shape, in the back wall of the house, water streams down, perhaps into a continuous trough; though the reserved band at the bottom of the wall might equally well be the shelf or painted dado of some other South Italian vase-fountains.

Two other South Italian vases are much later,<sup>5</sup> about 330, and have fountains of the same type as that on the bell-crater, but simpler. Both are

<sup>1</sup> A.M. 1902 pp. 205 f. and 236.

<sup>2</sup> Leonardos *Ephem.* 1918 p. 110.

<sup>3</sup> Bibl. Nat. 940.

<sup>4</sup> Its style is approximately that of the later of Miss Moon's early S. Italian vases (*BSR* XI pp. 30 ff.).

<sup>5</sup> Karlsruhe 388; Naples 690.



small houses with back and side walls and no columns; they have heavy pediments with three palmette acroteria, and a flat ceiling, made of horizontal planks. There is a wide dado round the lower half of the wall; in the second vase this definitely projects, forming a shelf, or is edged with a shelf at the top, since a votive figure is standing on it. The spouts are set high up in the back wall, and there is no visible basin. In both vases there are indications of rocks; though the painter of the Karlsruhe vase has forgotten the rock against which his fountain was built, and introduced a figure emerging from behind the fountain.

As these small stone fountain-houses appear, so far as I know, only on Italian vases, they may possibly be a local type. On the other hand, to argue from them that small fountains of this variety actually predominated in the district where the vases were made would be unjustifiable; by now it is the vase-painter's habit to cover the surface of his vase with various small, loosely connected elements of roughly the same size, and a large building would upset the balance.

The walls and steps of the fountain on Acrocorinth<sup>1</sup> were also probably built some time during this century, since apparently the fountain was adapted in the next, under Antigonos Gonatas, when the inner vault was built and the Ionic columns and pediment set up. Essentially it resembles Minoc and the other fountains of the same plan, since it consists of a large rectangular basin, with a flight of steps leading down. The walls on either side of the steps and round the basin are, of course, retaining walls, and above them used to rise the rock sides of the deep cleft in the bottom of which the spring flows, though later the fountain was roofed with a vault, as has been said.<sup>2</sup> From the basin radiate three collecting tunnels, cut in the rock and partially lined with masonry.

But from about the middle of the century the most usual type of fountain is an oblong stone basin, sometimes completely sunk in the ground, sometimes built up out of slabs, according to the level of the water's inlet; there may be a colonnade in front of the basin, and engaged columns or piers in its front parapet. As there are several examples of this kind of fountain, though many in so ruined a condition that they help us little, it will suffice to describe one or two of the best preserved.

By far the largest and most complete is the fountain at Ialysos in Rhodes (Figs. 15 and 16), dated by the excavators in the fourth century.<sup>3</sup> It is built

<sup>1</sup> *American School at Athens, Corinth*, III 40.

<sup>2</sup> There are no proofs of any roofing earlier than the vault. The publication states that the tiles found above the vault were of 'good classic pattern,' and so earlier than the vault; but I understand that there are now being found at Corinth tiles of this pattern and of undoubtedly Hellenistic date.

<sup>3</sup> *Clara Rhodos* I 79. The fountain has not yet been published in any detail, but will shortly be so, by Dr. Maiuri; so far there is no published plan. I am grateful to Mr. T. J. Dunbabin and Mr. G. Deeley for the photographs, Figs. 15 and 16.



against the side of a hill; the rock is cut back a little to receive it, and projects at the sides and, slightly, above. The back and side walls are of isodomic masonry, the front of the basin of two courses of slabs, set between six rectangular pilasters which carry an architrave. In front of the pilasters, on a low step, stand six rather slender Doric columns, carrying a Doric architrave and frieze, normal, though both are carved on the same course of blocks. The roof was of stone, and flat. The water came from a small aqueduct cut in the rock behind the fountain; it entered the basin through



FIG. 15.—Fountain at IALYSOS.

two stone lions'-heads fairly high in the back wall, and flowed out through three other heads carved on the slabs at the front of the basin. There were other, purely ornamental, heads to make the fountain more symmetrical, one on each of the remaining panels of the parapet and two in the back wall. No details of gutters or drains to carry off the water afterwards have been published.

In the time of Lycurgus was built a fountain which forms part of the Dipylon Gate complex at Athens (Fig. 17).<sup>1</sup> All the stones of the superstructure, save one wall-block, have disappeared; but as it was built against walls of the gate which still remain, and as the places where its columns and parapet stood are clearly visible on the floor-slabs, the plan is certain. The whole fountain was built on a step of marble slabs, in an angle formed by

<sup>1</sup> *AM* 1879 p. 38; Judeich p. 136 fig. 10 ff.

two adjacent walls of the gate. The basin backed against these walls and was shaped like a very thick L; the rectangular space between the arms of the L formed the platform where people stood to draw water. Along the front edge of the platform were three columns, connected with each other and with the adjoining corners of the basin by thin slabs, except for the



FIG. 16.—FOUNTAIN AT IALYSOS.

middle intercolumniation, which was the entrance to the fountain and was left open. The water came in through a channel fairly high in the back wall. A small hole at the bottom of the parapet in front of the basin must have been used when the basin was to be completely emptied for cleaning;<sup>1</sup> but the normal outlet was higher up in the parapet; for there is a hole cut down through the marble step, its sides sloping in like a truncated cone, connected with a narrow drain which leads to the front of the building; it

<sup>1</sup> The water has worn a narrow groove in the floor.

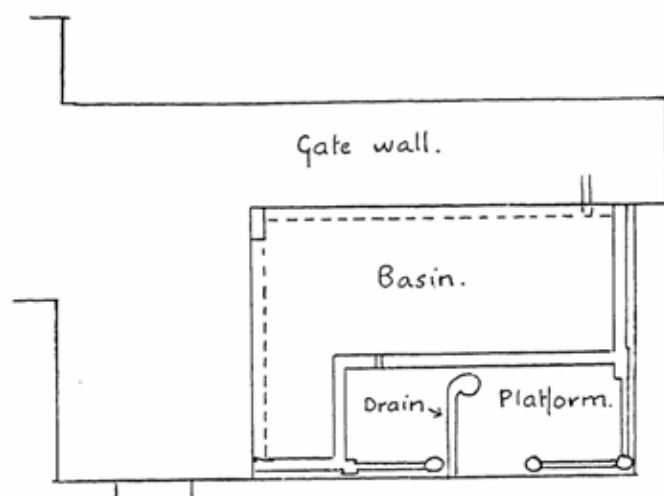


FIG. 17.—ATHENS: FOUNTAIN BY THE DIPYLON GATE.  
Sketch Plan after Judeich, 137 and *AM* 1378, Pl. IV.

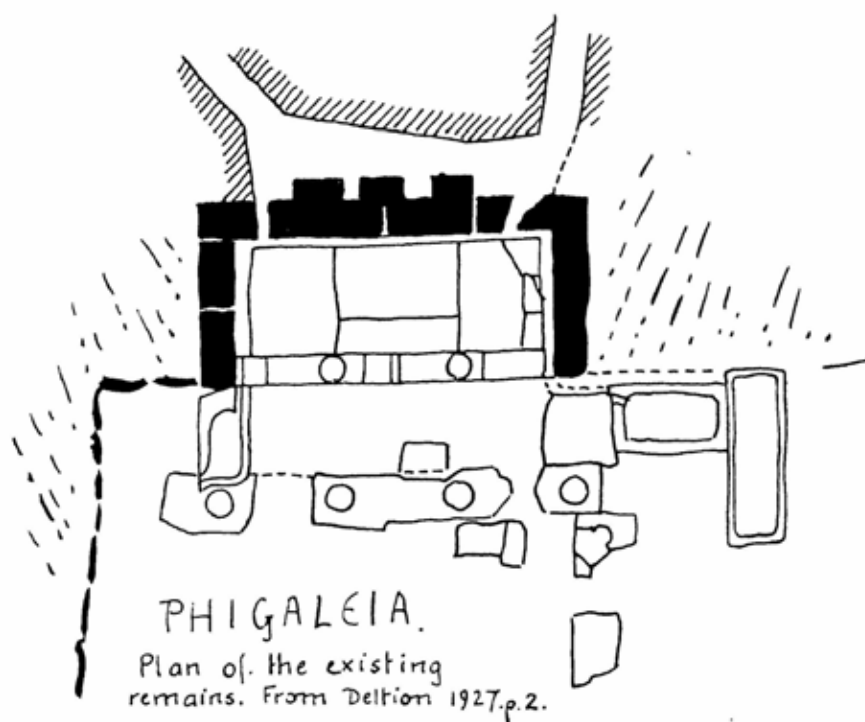


FIG. 18.—FOUNTAIN-HOUSE AT PHIGALEIA.

must have been made to catch a stream of water falling from above, and its sloping sides would be to prevent the water from splashing up again. This suggests that the water poured out inconveniently fast for actually filling pitchers, and the platform close in front of the parapet is very worn in several places, as though water was drawn all along it.

At Phigaleia<sup>1</sup> there is a basin sunk in the ground and lined with orthostates (Fig. 18). There are pseudo-isodomic retaining walls at the back and sides of the basin, which is built against a slope. Spring-water, collected from this higher region in underground tunnels, pours into the basin through two square openings in the back wall, at about ground-level. Along the front of the basin is a raised rim of long, narrow slabs set flat on the orthostates which line the basin; there are two raised circles where columns once stood. A little in front of the basin was another stylobate of slabs, with raised circles for four columns opposite to the two inner columns and the ends of the side walls. They were a little thicker than the inner columns. There are no signs of fluting. Fragments which were found close to the fountain and are of suitable dimensions are a piece of the abacus, capital and top of shaft of an unfluted Doric column, and two (broken) wedge-shaped blocks, from a pediment. Otherwise Orlandos' restoration is conjectural.

Finally, about the end of the century, must have been built a pair of fountains which formed a part of the gymnasium at Sicyon.<sup>2</sup> They are cut out in the side of an earth terrace which is faced with a wall; the wall returns round the fountains to form their back and side walls. The back part of each consists of a basin closed by a parapet; in the parapet are engaged two rectangular pillars, faced with half-columns. Two Doric columns, the lower parts of whose shafts are polygonal, not fluted, stood between the antae. A plain architrave with a fascia at the top has been replaced above the inner colonnade; no stones from other parts of the entablature have been found. The basins, parapets and walls were coated with marble stucco. The roofs were probably of wood, as the columns and architrave-blocks are very light. The two fountains differ from one another in one or two details. The water was brought in pipes buried in the terrace; in one fountain it poured out through three spouts, each attached by four nails, with a thin spout in the centre; the other had a single spout and above it a niche, presumably for a statue, crowned by a miniature Doric entablature; its capacity was increased by two small vaulted cisterns which opened out from the back of the basin. In this fountain there are traces of painting on the walls. The fountains were probably made during the rebuilding of the city, after its capture by Demetrios in 303.

Other fountains, in a more ruined condition, have been found in other

<sup>1</sup> *Arch. Delt.* 1927 1-7.

<sup>2</sup> Orlandos *AJA* 1934 p. 153; 1935 p. 408; 1937 p. 336. *Prakt.* 1934, p. 116.

places, including Lousoi,<sup>1</sup> Stymphalos,<sup>2</sup> Mount Lykaion.<sup>3</sup> All date from either the fourth or the third century. A spout-filled basin with Ionic columns, at Magnesia,<sup>4</sup> and a long, narrow basin belonging to the gymnasium at Pergamon,<sup>5</sup> with a row of columns half-engaged in the parapet, and another along the centre of the basin, show that this type of fountain-basin was still flourishing in the second half of the third century.

To sum up: the structure of Greek fountain-houses usually depends to a certain extent on the natural features of the regions in which they are built. Natural advantages are utilised to the full, cisterns and channels are cut out of the rock itself where possible, and natural rock may be left to form roof, piers or walls. In early times, the fountains built by the tyrants are largely rock-cut, though the Megarian, which has no convenient rock-spring near, is built of masonry. Smaller fountain-houses are at least partly of wood. During the fifth and early fourth centuries such little evidence as there is suggests that stone is becoming more common; from about the middle of the century stone basins with stone fountain-houses are quite usual, and at least in South Italy vase-paintings suggest that even very small fountains were sometimes made of stone. Well-like basins in the ground, approached by steps if the water-level is low, occur in almost all periods.

### III. WATER-SUPPLY.

*Inlets.*—In districts where there is a natural source in some convenient place, the fountain is usually built immediately against it. So, at Athens, Kallirrhoe and the Asklepieion fountain are enlargements of natural caves, and supplied by the water which oozes down through the rock. The agora-fountain and Pirene at Corinth are also adaptations of springs; and the basin at Tegea is filled by spring-water which wells up in the bottom of it. Sometimes, to facilitate the flow of the water, tunnels were cut back into the rock, following the direction of the cracks through which the water flowed. In some fountains, such as Castalia, a place where the water flowed plentifully was reached almost at once, and the tunnels are quite short; in others—Pirene, for instance—they are longer and more in the nature of conduits. In the fountain on Acrocorinth three tunnels have been sunk from the main spring room in search of water. At Ialysos the water flows from a small tunnel cut in the rock at the back of the fountain; and Phigaleia was supplied in the same way by a series of converging tunnels, which it has not been possible to excavate fully.

If, on the other hand, the fountain is needed in a place which is not very

<sup>1</sup> *Jahresh.* 1901 p. 15.

<sup>2</sup> Orlandos *Prakt.* 1925 p. 52.

<sup>3</sup> Kourouniotis, *Prakt.* 1909 pp. 198 ff. A very large third- or second-century basin at Lykosoura (Orlandos *Ephem.* 1911 p. 200), with spouts along its parapet, is interesting in that it very probably had wooden columns and entablature.

<sup>4</sup> Humann, *Magnesia* pp. 113 and 135.

<sup>5</sup> Dörpfeld, *AM* 1902 p. 36.

close to a spring, the water must be brought from its source in channels or tunnels. At Delphi the terrace fountain and the spout in the polygonal wall were supplied by an underground tunnel, walled and roofed with slabs.

If there is no spring in the neighbourhood, the fountain will depend on water brought from a distance by pipes laid inside a tunnel. The tunnel will be rock-cut if the ground is solid enough. The conduit of Eupalinos at Samos<sup>1</sup> and the Peisistratid aqueduct at Athens<sup>2</sup> are mostly rock-cut, but in certain places, where they pass through soil or crumbly rock, they have masonry walls. The tunnel which supplied the Megarian fountain was of slabs set in a trench in the earth, roofed over with other slabs and buried completely. Such aqueducts, however, are not strictly a part of the fountain-houses with which they are connected, and are far too large a subject to be considered here.

The basin at Samos is unusual in having been filled by river-water; presumably, as it was used for religious purposes, not for drinking, purity was not an essential consideration.

The water may pour straight into the draw-basin through spouts or openings, as it apparently did at Sicyon and Mount Lykaion, for instance; or it may first be collected in cisterns, as in the large fountains of the period of the tyrants. At Phigaleia the collecting-tunnels converge on a roughly rectangular hollow which forms a small cistern in the rock, behind the orthostates at the back of the fountain.

The Dipylon fountain and the third-century basin at Lykosoura were each supplied by a gutter which ends fairly high in the back wall of the basin.

The water was carried to the spouts in pipes or grooves. The archaic spouts from Delphi and Samos end at the back in pipes; in the Samian spout this is almost completely broken away; but the pipe of the Delphian spout ends in a set-back which probably notched into another pipe, as often happens with Greek terracotta pipes.<sup>3</sup> The spout was fixed into place with lead, of which a large mass still adheres to it. The only bronze spouts still in place, at Corinth, are fed separately by grooves cut in the raised floor behind them, and we find grooves in the later Hellenistic fountains, scooped out in the top surface of the slab on whose front surface the spouts are carved or attached; but unfortunately we have no details of the arrangement of early Hellenistic fountains in this respect, since the fountain at Ialysos has not yet been fully published.

*Outlets.*<sup>4</sup>—Well-fountains, where the water oozes from underground springs or is supplied by rainfall, would be only likely to overflow after great

<sup>1</sup> *AM* 1884 pp. 165 ff.

<sup>2</sup> *AM* 1905 pp. 23 f.

<sup>3</sup> *E.g.*, Samos *AM* 1884 p. 175 Pl. VIII; Athens *AM* 1905 pp. 24 f.

<sup>4</sup> It has often not been possible to discover much about the outlets of a fountain because of difficulties of excavation and later alterations. Often details are not published.

rains. Minoë, which is very capacious, and whose normal water-level is rather low, has apparently no outlet; the water can seldom or never have risen to the top of the flight of steps. The other fountains of the same plan, at Tegea and Corinth, are much smaller, and provision had to be made for an overflow; each has a hole in the front face of one of its steps. At Tegea it is not known where the surplus water went; at Corinth it overflowed through a short tunnel into a narrow cistern. Apparently the water can never have been plentiful enough to overflow the cistern as well.

Fountains which depended on running water needed not only a possible means of overflow, but a permanent arrangement for continually disposing of the water.

The water from spouts seems often to have been collected in basins, even when pitchers were actually filled under the spouts, presumably for economy. In the Corinthian agora fountain the water dripped into gutters and was carried to the basin in front of the fountain. On the coin-series of Terina<sup>1</sup> a Nike is filling her pitcher from a spout; under the spout appears the rim of a basin in which a swan is swimming. On the coins of Himera,<sup>2</sup> the water from the spout falls into a rectangular basin, too shallow for filling pitchers; a little satyr is standing in it, having a shower-bath under the spout. In black-figure vases there are often goblet-shaped basins underneath spouts,<sup>3</sup> perhaps for washing in.<sup>4</sup> The rectangular objects underneath spouts in black-figure paintings may also sometimes be troughs, since a square trough and a square stand would be indistinguishable in elevation. Usually they seem to be stands, for very often pitchers or people are actually standing on them,<sup>5</sup> but in a very few examples, where the pitcher is partially hidden, troughs must be meant.<sup>6</sup>

Apparently in some fountain-houses which were used as baths the whole floor of the fountain was a shallow trough with a raised rim round it to keep the water in. In the Antimenes painter's hydria in Leyden,<sup>7</sup> as Beazley<sup>8</sup> points out, the toes of the boys who are standing inside the house, and the soles of their feet, are hidden by the rim (so that here the basin must have been very shallow indeed); on an amphora in Berlin<sup>9</sup> the water reaches as high as the calves of the bathers' legs, so that the rim round the house, here

<sup>1</sup> *Sylloge* Lloyd Coll. vol. II no. 737.

<sup>2</sup> *Ashmole Greek Sculpture in Sicily and S. Italy* Pl. III 13, 15.

<sup>3</sup> *E.g.*, Athens 277; Eleusis; Munich 1436; Taranto, cup of Siana shape.

<sup>4</sup> In red-figure such basins are very common in bathing scenes, presumably inside houses, and spouts for filling them are sometimes shown. *E.g.*, Naples 2848 (Südhoff, Fig. 35).

<sup>5</sup> *E.g.*, B.M. B 329; Würz. 316; Madrid 10924.

<sup>6</sup> *E.g.*, Ath. Acrop. frag. 732; Berlin 2173 and 4027; Vatican (Alinari 35777). There are occasionally patterns on the sides of the trough or stand: Acrop. frag. 732 (hooks, perhaps meant to suggest a meander, with a masonry pattern, breaking joint, underneath); B.M. B 640 (row of small circles); Oxford, Ashmolean 568.

<sup>7</sup> Leyden 14e, 28.

<sup>8</sup> Beazley, *ABS* p. 26 n. 4.

<sup>9</sup> Berlin 1843.



left out so that everything may be visible, must have been much higher (unless the painter is simply trying to give a general impression of wetness).

Of course basins underneath the spouts would only be a preliminary stage in the disposal of the water; the basin in turn would need an outlet, just as ordinary draw-basins do. Even the water from a draw-basin occasionally poured into other basins before it was finally carried off.<sup>1</sup>

Some basins overflowed through spouts in their parapets, as we have seen; <sup>2</sup> others, which are more strictly draw-basins, had less conspicuous outlets. The water from the Megarian fountain ran out through holes in the bottom of the parapet into two drains. In Glauke it is probable that the cisterns were not usually all filled at the same time; but when they were all filled and the fountain could hold no more, the plugs between the various cisterns and basins could be removed and the whole fountain drained through a groove in the top of the parapet of the small draw-basin; the water passed through this into a vertical pipe, and fell into the gutter which ran across the front of the fountain.

Occasionally it would be necessary to empty a fountain completely, for cleaning. The basin by the Dipylon Gate, whose normal outlet was at a high level, had another small hole close to the ground, which would normally be blocked up, and opened only at cleaning time. The fountains built by the tyrants were planned so that their cisterns could be filled and emptied individually, without putting the whole complex out of action. Each of Pirene's reservoirs could be drained by blocking the inlet from the passage at the back.<sup>3</sup> Glauke's cisterns usually filled from each other, but there were elaborate arrangements for filling the others when the two which were normally filled first were being emptied and cleaned. The water was somehow diverted into a narrow channel cut high up in the east wall of the passage at the back of the first cistern; the channel was carried right across the back wall of the second cistern, opening into the third through a hole. The small draw-basin drained independently by a tunnel which ran under the platform in front. The offscourings from all the cisterns could be swept into a drain with which they all connected, in the large basin; the drain ran out, through an opening, into the tunnel under the platform, and so into the outside drain.

In country places, where it would not matter if the ground all round the fountain was wet, the water may have been left to drain away of its own

<sup>1</sup> At Phigaleia there are stone troughs with semicircular grooves in their top edges, to let the water flow in; two seem to have fitted against similar grooves in the front rim of the basin, so that water filled them and animals could drink from them. Troughs of this kind beside fountains are fairly common in Greece to-day, especially in the islands.

<sup>2</sup> *E.g.*, Ialysos; Dipylon Gate; third-century fountain at Lykosoura.

<sup>3</sup> Though the cisterns could not be emptied separately from the draw-basins with which they connect, and the two easternmost cisterns, which share a draw-basin, would have to be emptied at the same time.



accord; but in towns it seems to have been usually carried away in gutters, as at Megara and Dörpfeld's Enneakrounos. What happened to it afterwards we do not know; but in Greece water is very precious, and the overflow, from large fountains at least, must usually have been put to some useful purpose.<sup>1</sup> Such water would still be fit for filling animals' troughs and public washing-places;<sup>2</sup> and might even be used to supply another fountain at a lower level as at Delphi. Finally the water was probably used for irrigation; Plato, in the *Kritias*,<sup>3</sup> says: 'And the out-flowing water' (from baths and fountains) 'they conducted to the sacred grove of Poseidon, which contained trees of all kinds which were of marvellous beauty and height because of the richness of the soil. . . .'

#### IV. SPOUTS.

When pitchers were filled by holding them under running water, not by dipping, some kind of spout had to be provided so that the water fell in a conveniently thin stream. The simplest kind of spout, a plain tube, occurs in vase-paintings of all periods,<sup>4</sup> fixed to a wall or inside a fountain-house. In actual buildings I know of no example earlier than the third-century basin at Lykosoura,<sup>5</sup> which had in its parapet small holes into which tubular spouts must have been fixed.<sup>6</sup>

On two black-figure vases the spout is decorated with the protome of a prancing horse. On the Munich vase<sup>7</sup> the horse is seen from the side and riderless, but the British Museum vase has completely frontal horses with riders.<sup>8</sup>

By far the most usual type of spout, however, in fountains, and on

<sup>1</sup> In the country to-day the right to use up the overflow of a fountain is nearly always legally secured to some individual.

<sup>2</sup> The inscription from Minoe (Delos V 113), which forbids washing anything or bathing in the fountain, suggests that public basins for such purposes were not uncommon. The inscription is fragmentary; the first few lines are decipherable:—

Μη πλύνεν ἐπὶ τὴν κρήνην  
μη δὲ νυμῆ δέ κολυμ[βᾶν ἐν τῇ]  
ἐκρήνην ἐμῆ δέ . . . λ . . . κ[α]  
τὰ τὴν κρήνην [ἐν] . . .

<sup>3</sup> 117 D., trans. Bury (Loeb).

<sup>4</sup> B.M. inv. 99.7-1.2; Munich 1436 & 1690; ex-Forman Coll.; Philadelphia (A74 1907 p. 429); Taranto, hydria (r.f.), Athens 1698, B.M. E 772; B.M. F 493; Karlsruhe 388 (Italiote). On a series of r.f. and white-ground lekythoi, by the Bowdoin painter, tubular spouts are shown from the front, by a ring. (Girgenti, Baron Giudice's Coll.; Athens 1791; Syracuse; Berlin, inv. 3338-9; Oxford, Beazley's Coll. c.f. B.M. B 329 (b.f.), E 204; Constantinople inv. 2179.)

<sup>5</sup> See above, p. 188, note 3.

<sup>6</sup> Tubular spouts are also used as rainwater-outlets on the simas of many early buildings—e.g., the Geloan treasury at Olympia and the pre-*Peisistratid* Hecatompedon; on the *Peisistratid* pteron of the Hecatompedon and the sixth-century temple of Apollo at Delphi they are mixed with lions' heads.

<sup>7</sup> Munich 1690. Most of the horse is restoration.

<sup>8</sup> B.M. B 329.

cornices after about the middle of the sixth century, is in the form of a head, almost invariably a lion's; and almost all the spouts which have been actually found are lions' heads. In Greece itself there is only one exception.

This, the earliest spout which we possess, was found at Olympia, and is in the form of a complete lion (Pl. 24 b).<sup>1</sup> It was found close to the remains of an ancient water-system,<sup>2</sup> though there are no traces of an actual fountain-house; whether it was inside a house or not, it must have stood on a pedestal or on the edge of a basin. A groove runs up the underside of its body, and must have contained a pipe which ended in its mouth, and into which the water was raised by pressure.<sup>3</sup>

The lion is crouching, with its front paws lying horizontal on the ground and its head pressed against them. Its feet must have hung down over the edge of the pedestal or basin.<sup>4</sup> The body is thin and sinewy, the mane flat and covered with a regular pattern of scales. The ear is pointed and lies back nearly flat against the mane, and the soft part where it joins the head is treated with remarkable feeling. The jaws are wide and snarling, and edged with deep, concentric wrinkles, and there are concentric wrinkles arched above the large, bulging eyes.

Crome<sup>5</sup> gives an excellent account of the lion, and points out that its closest parallels are certain Protocorinthian vases of the early seventh century. It is particularly like the 'hounds' on a pyxis lid in Aegina and a kotyle in the British Museum, both from the beginning of the middle Protocorinthian period.<sup>6</sup> These have the same admirably swinging outline as the lion; and the best analogy for the strongly curved line which edges the lion's mane is a line in exactly the same position on the hound of the Aegina fragment. With the scale-pattern on the lion's mane, Crome compares that on the New York Nessos-amphora, of about the same date as the Protocorinthian vases; in both the curved ends of the scales point towards the lion's head.<sup>7</sup> But the Olympian lion is definitely Peloponnesian, not Attic, in style. It must have been made shortly after 675.

<sup>1</sup> *Olympia* III p. 26 fig. 23 Pl. V; Crome *Mnemosynon Theodor Wiegand* pp. 47 ff. Pls. VII, IX, X.

<sup>2</sup> *Olympia* III p. 26; Crome *op. cit.* p. 49 note 4.

<sup>3</sup> There is no evidence of pressure in Greek water-systems before that of Pergamon in Hellenistic times (Gerkan *Städteanlagen* p. 89). But several trick vases, including one which is as early as the first quarter of the sixth century (Louvre, Corinthian comast-vase *BCH* 1895 pp. 225 ff. Pls. XIX, XX; Payne *Necrocorinthia* p. 176; Amsterdam, Allard Pierson Museum, Snijder, *Mnemosyne*, 1937; Boston, Fine Arts Museum, *id.* and 25th *Annual Report of the F.A. Mus.* 1900 p. 71. These are both Campanian fourth century) show that the Greeks knew how to utilise atmospheric pressure.

<sup>4</sup> Crome points out that the lions which form the fountain in the fresco of the Tomba dei Tori at Corneto are in much the same position. (*AD* II Pl. XLI.)

<sup>5</sup> *Op. cit.*

<sup>6</sup> Payne *Necrocorinthia*, Pl. IV 3 and V 1-4.

<sup>7</sup> Though scales as a rendering for fur do not otherwise occur in Protocorinthian, the scales on the hedgehog vase (Payne *Necrocorinthia* p. 171 fig. 71) may be meant to suggest prickles.

Crome refers to two other complete lions which were used as spouts, both Ionian and both in the museum at Smyrna. He dates them in the third quarter of the sixth century. One is unpublished, but will shortly be so.<sup>1</sup> The other<sup>2</sup> is of limestone, and is very solid. It lies on the ground, with its head turned towards the front. Its fore paws are crossed and its back paws are drawn forward under its belly, so that all four are visible; to make this curious position possible, the ground on which it is lying slopes sharply down, so that the whole effect is, as Curtius says, very like a relief. The creature is obviously meant to be seen only from one side, so that there was probably a wall close behind it. Proportions and execution are poor; the head is too small, and the forms of the head and mane rather vaguely rendered, without any real feeling either for line or for solid form.

In Greece itself there are no other examples; and the series of lion's-head spouts begins early in the seventh century. That found in the basin at Samos is strongly influenced by oriental, probably Assyrian, models.<sup>3</sup> The snarling mouth, the large, pointed ears, folded flat as if they had been ironed and lying back close against the head, and the wrinkles which radiate from the nose, can all be paralleled in Assyrian art.<sup>4</sup> But the very broad, flap-like rendering of the top of the nose, with its concentric wrinkles, which widen instead of narrowing towards the point of the nose, must surely be an original invention; though from the side it is not unlike some Assyrian examples, and still more like a small probably Phoenician ivory lion's head in the British Museum.<sup>5</sup> Perhaps the maker of the spout was best acquainted with reliefs, where lions appeared in profile, and for details which he did not find in them was forced to draw upon his own imagination, not with complete success.

The head is prolonged at the back to form a thick tube, ending in three raised ridges; on top of the tube crouches a life-sized frog of pensive expression.

Stylistically the spout is admirable; though it is linear rather than plastic in conception. The technique is careful; deep incision is used for wrinkles, and a delicate, plait-like pattern of locks is engraved along the rim of the mane.

The lions' heads of black-figure vase-painting, which come next in date, are seldom executed with sufficient detail or exactitude to make comparisons with other lions very profitable. Certain conventions are observed, whether the heads are spouts or belong to complete animals. Lions' heads seen from

<sup>1</sup> Crome *op. cit.* p. 49 note 4. Phot. Germ. Inst. Ath. Smyrna 20.

<sup>2</sup> *AM* 1906 p. 155 fig. 4; Phot. Germ. Inst. Ath. Sam. 130, 131.

<sup>3</sup> *AM* 1930 p. 30 and Pl. I; *Altamische Standbilder* III figs. 213, 216, 217; Crome *op. cit.* pp. 49, 51 f.

<sup>4</sup> Hall, *Babylonian and Assyrian Sculpture in the B.M.*, Pls. XVIII, XLVIII, LIX.

<sup>5</sup> Inv. 118144, unpublished. Mr. Barnett tells me that it must have been made between about 850 and 700.

the front are almost invariably represented as panthers',<sup>1</sup> but as no side-view panther-heads occur it seems reasonable to suppose that the same animal is meant in both cases, and that the distinction is for purposes of drawing only;<sup>2</sup> a lion's mane from the front would have a blurred and rather indefinite outline, whereas from the side it forms a good transition to the vertical line of the wall to which it is attached, or, in complete animals, gives a simpler curve to the outline of the neck. There are a few attempts to show frontal lions with manes. On five vases<sup>3</sup> by the same hand the painter is tentative, and gives only a few tufts of hair on the forehead, at the same time altering the shape of the face to avoid the usual panther-pattern, though not with very great success; on the Phineus-cup<sup>4</sup> the mane is more stylised and the head seen from above, which simplifies its outline, but unfortunately all details of the features have disappeared completely, owing to the wretched condition of the vase.

The very few lion-spouts in red-figure vase-painting, though later, may conveniently be included here. They again are not very helpful. Those of an early date are usually rather schematic and much the same as in black-figure,<sup>5</sup> though panthers no longer occur: the Brygos-painter's lion<sup>6</sup> is full-face with a mane (though very squashed and hastily drawn). The Berlin-painter's<sup>7</sup> are drawn with extreme care; in both the ear appears from behind the row of locks which frame the face, which is not usual in vase-paintings, though it occurs in the lions of the Hecatompodon sima.

The lions on fourth-century South Italian vases<sup>8</sup> are rather vague and impressionistic in their drawing, and so of little value for my purpose.

The two spouts in the agora-fountain at Corinth are different from each other.<sup>9</sup> The earlier (Pl. 25a) approximates in its general shape to the lions on the cornice of the Peisistratid Hecatompodon,<sup>10</sup> but it has less detailed modelling. The mane is treated plastically as a row of flame-shaped locks, overlapping only in the middle, and flatter and more regular than those of the Peisistratid lion; it starts very abruptly, and runs across the forehead in a sharp line, as though it were a separate frill and did not belong organically to the head; in this it resembles the manes of the lions on the frieze of the Siphnian treasury and the pediment of the Alcmaeonid temple at Delphi.<sup>11</sup>

<sup>1</sup> See *Necrocor.* p. 70.

<sup>2</sup> Except in Berlin 1843, where a spotted neck, rather awkwardly added, seems definitely meant to show that the creature is a panther or a leopard.

<sup>3</sup> B.M. B 329; Würz. 316-17; Bari 3083; Florence frag.

<sup>4</sup> Würz. 354.

<sup>5</sup> E.g., Torlonia Coll.; B.M. E 159.

<sup>6</sup> Louvre.

<sup>7</sup> Madrid 11167, Leningrad 1588.

<sup>8</sup> E.g., Naples 690; B.M. F 236.

<sup>9</sup> There is an inadequate photograph of the later one in *AJA* 1902 p. 319. The other is not published at all.

<sup>10</sup> Payne and Young *Archaic Marble Sculptures from the Acropolis*. Pl. 132.

<sup>11</sup> *F de D* IV 1, Pls. XIII, XXXIII.

The eyes are small and very shallow; and there is a curious line running from the front corner of the eye to the upper lip, which has no exact parallels, though something like it occurs on one or two vases.<sup>1</sup> On general considerations I should date it roughly round about 525. The workmanship is not particularly careful, but the spout is admirably solid and sculpturesque in conception.

The other head has much less character (Pl. 25*b*). Its modelling is much smoother and the transitions from one plane to another are less emphatic. Its eyes are more plastic and sunk farther into its head; its mane is flat with incised lines, except above the forehead, where there are



FIG. 19.—SPOUT AT DELPHI.

two rows of four flattish, plastic locks. The mane splays out into a circle which frames the face and ends in a flat edge, so that the head could be fixed directly against the wall, instead of having an intervening piece of tube like the other spout; this less awkward arrangement also suggests a later date. The spout seems to me to have been made about 500 or a little later.

The spout at Delphi (Fig. 19) is stylistically between the two;<sup>2</sup> it is square and solid, and its mane starts fairly abruptly from the face; there are wrinkles running in a leaf-like pattern from the nose across the cheek, slightly plastic, but emphasised by incisions. The head was not sunk quite so far into the wall as the later Corinthian spout. It was prolonged at the back into a thick tube, and was sealed into the wall with lead.

The spouts at Ialysos are so worn that it is difficult to form any opinion of their style. They seem to have rather pointed noses, deep-set eyes and spreading manes with naturalistic locks.

All the early spouts which have been preserved are bronze, except the

<sup>1</sup> Payne *Necrocor* fig. 200 (Attic) and fig. 71.

<sup>2</sup> *F de D V* p. 56 Pl. XV.

complete lions. Pindar seems to refer to bronze spouts at Delphi.<sup>1</sup> And at the end of the fourth century the fountains at Sicyon had separately attached metal spouts. But in the fourth century we find stone spouts at Ialysos, and in later Hellenistic fountain-houses and gymnasia stone spouts seem to have been common.<sup>2</sup>

Heads of other animals form only a very small proportion of the total number of spouts on vases, and none have been actually found. Donkeys' are the most common, and appear on at least four vases.<sup>3</sup> Boars'<sup>4</sup> and satyrs'<sup>5</sup> heads also occur. Rams' heads do not occur, but one would expect them to have been common, as they are found several times on cornices in the sixth century,<sup>6</sup> and their horns offer almost as broad a surface for attachment as lions' manes.

On the whole, one cannot help being struck by the restraint of the Greeks of the archaic and classical periods when one compares their fountains with those of other peoples and times. Roman fountains, in the houses at Pompeii, for instance, are almost excessively ornate and complicated, and there is a delightful variety of medieval and renaissance fountains in the form of complete figures or groups of figures, with the water pouring from the beak of a goose or the pipes of a bagpipe or some other unexpected place. But these are meant chiefly for ornament; Greek fountains are essentially utilitarian, and such fantasies would be out of place in them. The lions at Olympia and Smyrna are the only known Greek fountain in the form of a complete animal (and shew incidentally that the Greeks knew how to make at least a simple variety of such fountains if they wanted); in all other fountains the fantastic element is confined to the spouts and the roof-decorations, and is strictly subordinated to the architectural design of the fountain as a whole. Even the spouts themselves tend to become less exuberant as time goes on, and after the sixth century we no longer find such amusing forms as the frog-and-lion spout at Samos, which savours of a practical joke, or the little horsemen on the British Museum vase. The

<sup>1</sup> See above, p. 178.

<sup>2</sup> Priene (p. 296), in the gymnasium; Lykosoura, unpublished Hellenistic basin, with one very rough lion's head.

<sup>3</sup> Louvre F 296; Vatican, Alinari 35777; Berlin 4027; B.M. E 13 (r.f.).

<sup>4</sup> E.g., Berlin 1843; ex Sotheby's sale, London.

<sup>5</sup> Torlonia Coll.; Bibl. Nat. 422 (de Ridder describes them as gorgoneia; perhaps they are).

<sup>6</sup> Eleusis, Noack Pl. XXIX and p. 64 (a false spout; without any hole), and the Peisistratid Hecatompædon, Wiegand p. 125 fig. 121. I agree with Noack that the ram's head at Kaisariane, now used as a fountain-spout, probably belonged originally to a sima, not to a fountain; the stone on which it is carved, though too broken for one to judge of its dimensions, ends a few centimetres above the animals' head in a finished surface. Here it is very thin, and much more like the edge of a sima than part of a slab from a wall or parapet.

fountain-buildings, too, become more uniform; the natural rock of which they used to be largely composed is now hidden by walls; and the lively, decorative wooden buildings which were once common are replaced by others more solid, and, until well into the Hellenistic period, more sober. Their history is, in fact, much as one would expect from a consideration of other branches of Greek architecture.

B. DUNKLEY

## CATALOGUE OF VASES WITH FOUNTAIN SCENES.

[Note.—With a few exceptions, I omit those where only a spout is shown.]

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- 277 (C.C. 620). Bottle. Corinthian (by Timonidas). *AZ* 1863, p. 57, pls. 174 and 175; thence Reinach, p. 394; *AM* 1905, pl. VIII; thence Pfuhr, fig. 174; and Payne, *Necr.* pl. 24, 5; Orlandos, fig. 5; Fölzer, no. 245 . . . . . 153, 170, 190
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# RULES AND REGULATIONS

OF THE

## BRITISH SCHOOL AT ATHENS.

### OBJECTS OF THE SCHOOL.

I. The first aim of the School shall be to promote the study of Greek archaeology in all its departments. Among these shall be (i) the study of Greek art and architecture in their remains of every period; (ii) the study of inscriptions; (iii) the exploration of ancient sites; (iv) the tracing of ancient roads and routes of traffic.

II. Besides being a School of Archaeology, it shall be also, in the most comprehensive sense, a School of Classical Studies. Every period of the Greek language and literature, from the earliest age to the present day, shall be considered as coming within the province of the School.

III. The School shall also be a centre at which information may be obtained and books consulted by British travellers in Greece.

IV. For these purposes a Library shall be maintained of archaeological and other suitable books, including maps, plans, and photographs.

### THE SUBSCRIBERS.

V. The following shall be considered as Subscribers to the School:—

- (1) Annual Subscribers of £1 and upwards during the period of their subscription.
- (2) Persons not Corporate Bodies, who pay the sum of not less than £10 to the general funds of the School and are to be considered as compounding thereby for life for an Annual Subscription of £1.
- (3) Persons not Corporate Bodies, who pay the sum of not less than £20 to the general funds of the School and are to be considered as thereby compounding for life for an Annual Subscription of £2 entitling them to privileges of VI (b).

VI. (a) Subscribers of £1 annually, and persons who have compounded as prescribed in V (2) to the general funds shall be allowed to purchase the *Annual* at a reduced rate of £1.

(b) Subscribers of £2 or more annually, and persons who have compounded as prescribed in V (3) and upwards to the general funds of the School, shall receive the *Annual* free of charge.

(c) All Subscribers shall be entitled to receive the Annual Report and the Director's Annual Survey "Archaeology in Greece" and to attend public meetings of the School, and (when visiting Athens) to use the Library.

Subscribers resident in Athens who desire to make use of the Library shall pay a subscription of not less than £2 2s.

VII. A Corporate Body subscribing not less than £50 a year, for a term of years, shall, during that term, have the right to nominate a member of the Managing Committee.

VIII. A Meeting of Subscribers shall be held annually after the close of the School's financial year, at which each Subscriber shall have one vote. A subscribing Corporate Body may send a representative. At this Meeting a report from the Managing Committee shall be presented, including a financial statement and selections from the reports of the Director and Students for the season. At this Meeting shall also be annually elected or re-elected the Honorary Officers of the School, the Auditors, and two members of the Managing Committee, in place of those retiring under Rule XIV.

IX. Special meetings of Subscribers may, if necessary, be summoned by the Managing Committee.

### THE TRUSTEES.

X. The property of the School shall be vested in three Trustees, who shall be appointed for life, except as hereinafter provided. Vacancies in the number of Trustees shall be filled up at the Annual Meeting of the Subscribers.

XI. In the event of a Trustee becoming unfit or incapable of acting, he may be removed from his office by a majority of three-fourths of those present at a special meeting of Subscribers summoned by the Managing Committee for that purpose, and another Trustee shall by the same majority be appointed in his place.

XII. In the event of the death or resignation of a Trustee occurring between two Annual Meetings, the Managing Committee shall have the power of nominating another Trustee to act in his place until the next annual meeting.

# RULES AND REGULATIONS

## THE ADVISORY COUNCIL.

XIII. There shall be an Advisory Council, unlimited in number and composed of:—

- (1) The President and a number of Vice-Presidents elected or re-elected annually by the Subscribers.
- (2) The Trustees and Honorary Officers of the School.
- (3) Members appointed ex officio: viz., H.M. Minister at Athens, the Chairman of the British Council, and such others as the Subscribers shall from time to time determine.
- (4) Members nominated by Corporate Bodies subscribing £50 a year or more, as in VII.
- (5) Members elected by the Subscribers at the annual meetings.
- (6) Members co-opted by the Managing Committee subject to confirmation by the Subscribers at their next Annual Meeting.

## THE MANAGING COMMITTEE.

XIV. There shall be a Managing Committee composed of:—

- (1) The President and Vice-Presidents.
- (2) The Trustees and Honorary Officers.
- (3) The nominated members of the Council.
- (4) Eight members of the Council appointed by the subscribers. Two of these members to retire each year and not to be eligible for reappointment to the Managing Committee in that year.

XV. The Committee shall have control of all the affairs of the School, and shall decide any dispute that may arise between the Director and Students. They shall have power to deprive any Student of the use of the School premises.

XVI. The Committee shall meet as a rule once in every two months during the School session; but the Secretary may, with the approval of the Chairman and Treasurer, summon a special meeting when necessary.

XVII. Due notice of every meeting shall be sent to each member of the Committee by a summons signed by the Secretary. Three members of the Committee shall be a quorum.

XVIII. In case of an equality of votes, the Chairman shall have a second or casting vote.

XIX. In the event of vacancies occurring among the Officers or on the Committee between the annual elections, they may be provisionally filled up by the Committee until the next annual meeting.

## HONORARY STUDENTS AND STUDENTS.

XX. The Students shall consist of the following:—

- (1) Graduate Holders of travelling fellowships, studentships, or scholarships at any University of the British Empire.
- (2) Travelling Students sent out by the Royal Academy, the Royal Institute of British Architects, the Byzantine Research and Publication Fund, or other similar bodies.
- (3) Other persons who satisfy the Managing Committee that they are duly qualified to be admitted as Students.

XXI. No person, other than a student of the British School at Rome or the Florence Student of the Royal Institute of British Architects, shall be admitted as a Student who does not intend to reside at least three months in Greek lands. In the case of Students of the British School at Rome, an aggregate residence of four months at the two Schools will be accepted as alternative to three months' residence in Greece. The Managing Committee may also grant the privileges of a Student to other persons for a shorter period.

XXII. Students attached to the School will be expected to pursue some definite course of study or research in a department of Hellenic studies, and to write in each season a report upon their work. Such reports shall be submitted to the Director, shall by him be forwarded to the Managing Committee, and may be published by the Committee if and as they think proper.

XXIII. Intending Students are required to apply to the Secretary. The School Session shall be from November 1st to July 1st. Students shall only be granted admission for one session at a time. They shall be regarded as Students from the date of their admission by the Committee to the 31st day of October next following; but any Student admitted between July 1st and October 31st in any year shall continue to be regarded as a Student until October 31st of the following year.

XXIV. The Managing Committee may elect as Honorary Students of the School such persons as they may from time to time deem worthy of that distinction. Honorary Students enjoy all the privileges of Students without payment of admission charges, but pay the same rates as Students if they reside or mess in the Hostel.

XXV. Honorary Students, Students, and Associates elected before 1936 shall have a right to use the Library of the School and to attend all lectures given in connexion with the School, free of charge.

XXVI. Students shall be expected to reside in the Hostel, except with the sanction of the Director. Priority of claim to accommodation in the Hostel shall be determined by the Committee.

See also under Rules XXVII-XL, XLIV-XLVI.

#### THE DIRECTOR.

XXVII. The Director shall be appointed by the Managing Committee, on terms which shall be agreed upon at the time, for a period of not more than three years. He shall be eligible for re-election.

XXVIII. He shall have possession of the School-building as a dwelling-house.

XXIX. It shall be his duty (1) to guide and assist the studies of Students and Associates of the School, affording them all the aid in his power, and also to see that reports are duly furnished by Students, in accordance with Rule XXII, and placed in the hands of the Secretary before the end of June; (2) to edit the *School Annual*.

XXX. Public Meetings of the School shall be held in Athens during the season, at which the Director and Students of the School shall read papers on some subject of study or research, and make reports on the work undertaken by the School.

XXXI. He may at his discretion allow persons, not Students of the School, to use the Library and attend the public meetings and lectures of the School.

XXXII. He shall be resident at Athens from the beginning of November in each year to the end of the following June, but shall be at liberty to absent himself for short periods for purposes of exploration or research. He shall visit Knossos at least once in each session and shall report to the Committee as to the management of the property.

XXXIII. At the end of each season he shall report to the Managing Committee—(i) on the studies pursued during the season by himself and by each Student; (ii) on the state of the School-premises and the repairs needed for them; (iii) on the state of the Library and the purchases of books, &c., which he may think desirable; and (iv) on any other matter affecting the interests of the School.

XXXIV. In case of misconduct the Director may be removed from his office by the Managing Committee by a majority of three-fourths of those present at a meeting specially summoned for the purpose. Of such meeting at least a fortnight's notice shall be given.

See also under Rules VIII, XV, XXII, XXVI, XXXVI-XXXVII, XXXIX, XLIII-XLV, LI-LII.

#### THE ASSISTANT DIRECTOR AND LIBRARIAN.

XXXV. The Assistant Director shall be appointed by the Managing Committee, on terms which shall be agreed upon at the time, for a period of not more than three years. He shall be eligible for re-election.

XXXVI. It shall be his duty, subject to the Director's approval and control, to take charge of the Library and to be responsible for the Hostel, and otherwise help in the management of the School.

#### RULES FOR THE MACMILLAN HOSTEL.

XXXVII. The Director shall have power to exclude a Student from the Hostel in case of misconduct; but such exclusion must be immediately reported to the Managing Committee.

XXXVIII. Every Student shall pay an admission charge of £3 3s. per session to the *Secretary*, 50 Bedford Square, London, W.C.1, before leaving for Greece, and no Student will be entitled to accommodation in the Hostel until this fee has been paid. The rent charges in the Hostel are:—

3/- per single room per night.

2/6 „ share in a double room per night.

These payments include light and servant's wages. Students are also required to pay their messing.

XXXIX. Honorary Students, Associates, Members of the Committee, and ex-Directors may be admitted to residence in the Hostel. Other persons, if seriously engaged in study or research, may be admitted by the Director at his discretion. But no person shall reside in the Hostel under this rule to the exclusion of any Student desiring admission.

XL. Persons granted Student privileges under Rule XXI shall pay an admission charge at the rate of £2 for the first month, or part of a month, of residence (payable before leaving for Greece), and £1 for each succeeding month. If admitted to the Hostel they shall pay, for rooms and other charges, the same rate as students.

See also under Rules XXI, XXVI, XLIV, XLV.



## RULES AND REGULATIONS

## KNOSSOS.

XLII. The Archaeological Curator at Knossos shall be appointed<sup>1</sup> by the Managing Committee for a period of not more than three years. He shall be eligible for re-election.

XLII. It shall be his duty

- (1) to reside generally at Knossos in quarters assigned to him by the Managing Committee, for eight months in each year, normally from November 1st to June 30th. Residence is deemed to include periods of travel in Crete, and occasional visits to other parts of Greece. The upper rooms and the kitchen of the Taverna are assigned to the Curator for his personal use.
- (2) to undertake the care and management of the School's estate and archaeological area and be responsible for their maintenance in good repair.

XLIII. He shall hold, with regard to the Director of the School, the same position as the Assistant Director. The Director of the School has general authority in questions of policy, but the Curator is at all times responsible for administration.

XLIV. Students residing at the Villa Ariadne or Taverna, shall pay to the Villa Account the same charges as in the Hostel at Athens. Special arrangements may be made with regard to Students and others engaged in an excavation of the School.

The total number of Students, persons with Students' privileges and other persons admitted on recommendation of the Director, residing at the same time at Knossos, shall not exceed seven, of whom not more than five shall be admitted at the same time to residence in the Villa.

See also under Rule XLIX, LII.

## RULES FOR THE LIBRARY.

XLV. The Director shall have power to make regulations for the management of the Library, its use by Students, and the like, subject to the approval of the Managing Committee.

## PUBLICATION AND ARCHAEOLOGICAL WORK.

XLVI. No publication whatever, respecting the work of the School, shall be made without the previous approval of the Committee. The Committee of the School shall have the first claim upon any written work done by a Student from material collected during the tenure of a Studentship at the School or with the aid of a grant from the School, and also upon the reports of excavations conducted under an official permit obtained through the School. No such work may be published elsewhere than in the *Annual* of the School without the previous consent of the Committee; always provided that such consent shall not be unreasonably withheld.

XLVII. The Managing Committee incurs no financial liability of any kind, except by specific resolution, in regard to archaeological work under the auspices of the School (excavation and work resulting therefrom, publication, etc.) undertaken by an Officer or Student of the School or any other person.

## THE FINANCES.

XLVIII. All money received on behalf of the School beyond what is required for current expenses shall be invested in the names and at the discretion of the Trustees.

XLIX. The banking account of the School shall be placed in the names of the Treasurer and Secretary, who shall sign cheques jointly.

L. The first claim on the revenue of the School shall be the maintenance and repair of the School premises in Athens and Knossos (Villa Ariadne and Taverna), and the payment of rates, taxes, and insurance.

LI. The second claim shall be the salaries of the Director and other officials of the School, as arranged between them and the Managing Committee.

LII. The Director shall submit annually, together with his report to the Managing Committee, estimates of expenditure for the following Session showing under the appropriate heads the amounts needed for the maintenance and repair of the School premises at Athens and Knossos, for the Library, and for excavations. These estimates shall be examined and approved by the Committee, and the Director shall report on any excess of expenditure over these. No extraordinary expenditure shall be incurred without a special resolution of the Managing Committee.

*Revised October 1938.*

<sup>1</sup> Subject to the approval of Sir Arthur Evans.

## LIST OF STUDENTS 1935-38 \*

### Admitted 1935-36.

- |   |   |
|---|---|
| †Beaumont, R. L., B.A.                            | Christ Church, Oxford. Craven Fellow. Fellow and Tutor of Corpus Christi College, Oxford.   |
| Benton, Miss S., M.A.                             | Girton College, Cambridge. Admitted 1927. Re-admitted 1936-8. Excavated in Ithaca.  |
| Bissett, D.                                       | Student of the British School at Rome. Rome Scholar in Sculpture 1934. Readmitted 1936-7.   |
| Brock, J. K., B.A.                                | Trinity College, Cambridge. Admitted 1930. Re-admitted 1936-8. Excavated with Mr. Young in Siphnos.   |
| Cook, J. M., B.A.                                 | King's College, Cambridge. Readmitted 1936-7. Excavated in Ithaca.  |
| Cormack, J. M. R., B.A.                           | University of Aberdeen. Wilson Student.   |
| Deeley, G. H.                                     | Student of the British School at Rome. Rome Scholar in Sculpture 1935. Readmitted 1936-7.   |
| Dunbabin, T. J., B.A.                             | Corpus Christi College, Oxford. Craven Fellow. Admitted 1934. Worked on finds for the publication of Perachora and excavated with Mr. Blakeway at Monasteri in the Perachora. Assistant-Director 1936-9. Fellow of All Souls College, Oxford 1937.                |
| Dunkley, Miss B., B.A.<br>(Frau Homann-Wedeking). | Bedford College and University College, London. Readmitted 1936-7 as Frida Mond Student. Excavated at Knossos. 1937-8 assisted in the Library during the absence of the Assistant-Director.   |
| Eccles, Miss E., B.A.                             | Royal Holloway College, University of London. With a grant from the School assisted the Curator of Knossos in preparing the publication of the Palaikastro finds. Admitted 1933. Readmitted 1937-8: conducted a trial excavation at the cave of Agio Gala, Chios. |
| Gray, E. W., B.A.                                 | Adelaide University and Christ Church, Oxford. Pelham Student of the British School at Rome. Student and Tutor of Christ Church, Oxford.  |
| Holford, Prof. W. C.,<br>F.R.I.B.A.               | Florence Bursar of the Royal Institute of British Architects.   |
| Hopper, R. J., Ph.D.                              | Gonville and Caius College, Cambridge. Macmillan Student. Worked on the Corinthian vases from Perachora. Admitted 1934. Readmitted 1936-7.  |

\* The complete list of Students admitted from 1886-1934 is printed in the *British School Annual* XXXIII, 1935, pp 235-52.

† Deceased.

- Labilliere, Miss A. D. D. Society of Oxford Home-Students. School Student. Made a special study of Bronze Age weapons. Readmitted 1936-8.
- Laing, Miss J. M., B.A. Society of Oxford Home-Students. Grant from Thomas Whitcombe Greene Fund. Readmitted 1936-7. Excavated at Knossos. 1937-8 School Student.
- Macaulay, W. J., B.A. Edinburgh College of Art. Post-graduate Scholarship. Excavated with Professor Baxter in Constantinople.
- Money-Coutts, Hon. M., B.A. Lady Margaret Hall, Oxford. Excavated at the Trapeza Cave, Crete. Readmitted 1936-7. Tzermiadha, Crete: 1937-8 Karphi and Kolonna, Crete.
- Pendlebury, J. D. S., M.A. Pembroke College, Cambridge. Excavated at the Trapeza Cave, Crete. Admitted 1927. Readmitted 1936-7, Tzermiadha, Crete: 1937-8 Karphi and Kolonna, Crete.
- Pendlebury, Mrs., B.A. (Miss H. W. White). Newnham College, Cambridge. Assisted her husband at the Trapeza Cave, Crete. Admitted 1927. Readmitted 1937-8, assisted at Karphi and Kolonna, Crete.
- Robertson, C. M., B.A. Trinity College, Cambridge. Admitted 1929. Editor of the *Annual* 1936.
- Smith, C. A. S., B.A. Sidney Sussex College, Cambridge. Readmitted 1936-8.
- Stewart, J. R. B., B.A. Trinity Hall, Cambridge. Wilkin Student. Investigated sites in the Balikesir district in Turkey; excavated there with Dr. Bittel and subsequently with Miss Lamb at Kusura. 1937-8 excavated in Cyprus.
- Thomas, Miss H., B.A. Girton College, Cambridge. Henry Carrington and Bentham Dumont Koe Student. Readmitted 1936-7; Walston Student; excavated with Miss Benton in Ithaca. 1937-8; Bye Fellow, excavated in Ithaca.
- Tierney, J. J., M.A. University College, Dublin. Travelling Student of the National University of Ireland.
- Trendall, A. D., M.A. Trinity College, Cambridge. Scholar in Archaeology and Librarian of the British School at Rome. Fellow of Trinity College, Cambridge 1938. Admitted 1933.
- Walton, A. C., B.A. Peterhouse, Cambridge.
- Young, G. M., C.I.E., M.A. King's College, Cambridge. Admitted 1938. Completed with Mr. Payne the photographic catalogue of the Archaic Marble Sculpture from the Acropolis, and excavated in Siphnos. Director 1936-9.

## LIST OF STUDENTS

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## Admitted 1936-7.

- Barber, J. L., B.A. St. Catharine's College, Cambridge. School Student. Studied geometric pottery; helped with the catalogue of the School's collection of antiquities and in the Library.
- Blench, Miss Q. M., B.A. Lady Margaret Hall, Oxford. Excavated at Siphnos.
- Desborough, V. R. d'A., B.A. New College, Oxford. Excavated at Knossos. Re-admitted 1937-8 as Macmillan Student. Excavated in Ithaca and at Karphi, Crete.
- Donn, D. L. Royal College of Art. Assisted Mr. Stewart as draughtsman at the excavations in Cyprus.
- Griffiths, J. G., B.A. New College, Oxford. Derby Scholar. Helped with preparation of squeezes for the University of Oxford.
- Kiernan, Miss H., B.A. University of Leeds. Sachs Student 1935-6. Studied ancient jewellery.
- Morrison, J. S., B.A. Trinity College, Cambridge.
- Pascoe, Miss M., B.A. Society of Oxford Home-Students. Studied Hagia Marina pottery, and excavated at Tzermiadha, Crete. Readmitted 1937-8; excavated in Crete.
- Segall, Dr. Berta. Admitted 1933.

## Admitted 1937-8.

- Bailey, Miss B. L., M.A. Westfield College, London. London University Graduate Travelling Scholarship.
- Barratt, Miss C., M.A. Somerville College, Oxford. Lecturer in Classics at Westfield College, London. Admitted 1928.
- Harrison, A. St. B., F.R.I.B.A. Assisted at the American excavations at Olynthus.
- Hunt, D. W. S., B.A. Wadham College, Oxford. Thomas Whitcombe Greene Scholar. Fellow of Magdalen College, Oxford. Travelled in Chios.
- Jeffery, Miss L. H., B.A. Newnham College, Cambridge. (Research Fellow) Walston Student. Mary Ewart Travelling Scholar. Excavated at the Agio Gala Cave.
- Johnston, Miss E., M.A. Edinburgh and Oxford Universities. British School at Rome. Holder of a J. E. Baxter Scholarship in Classics.
- Kahane, Dr. P., Ph.D. Basel. Worked on Attic Geometric pottery.
- Nisbet, Miss E. Y. Glasgow University. Ewing Fellow. Excavated at Aetos, Ithaca.
- Pym, Miss H. Lady Margaret Hall, Oxford.
- Stubbings, F. H., B.A. Emmanuel College, Cambridge. Henry Carrington and Bentham Dumont Koe Student. Excavated in Ithaca.

## LIST OF STUDENTS

*Student Privileges.*

## 1935-6.

Ball, W. V.	Jesus College, Oxford.
Mayor, A.	Trinity College, Cambridge.
Palmer, J. C.	Exeter College, Oxford; Clarke Student.
Pearce, J. A. C.	Brasenose College, Oxford.
Robertson, Miss E. M.	University of Edinburgh.
Scott, T. E., F.R.I.B.A.	Athens Bursar of the Royal Institute of British Architects.

## 1936-7.

Allen, J. S., A.R.I.B.A.	Headmaster, Leeds School of Architecture; R.I.B.A. Bursary.
Gill, Colin.	Leverhulme Fellow.
Jones, D. M.	Exeter College, Oxford. Farnell Student.
Nisbet, Miss E. Y.	University of Glasgow.
Sherwin, Miss M. E.	University College, London.

## 1937-8.

Dale, Prof. E. A., M.A.	University of Toronto.
Coke, Miss K. N.	Girton College, Cambridge.
Dettmann, Miss D. H.	Somerville College, Oxford.
Fitzhardinge, Miss U. C.	St. Hugh's College, Oxford.
Gray, Miss J. E.	Girton College, Cambridge.
Gomme, A. W., M.A.	Trinity College, Cambridge; Lecturer in Greek and Greek History, University of Glasgow; Leverhulme Fellow.
Hopper, G. W.	British School at Rome.
Hopper, R. J., B.A.	Gonville and Caius College, Cambridge.
Jones, A. Douglas, A.R.I.B.A.	Lecturer in Architecture, Architectural Association, London; R.I.B.A. Bursary.
Parke, Prof. H. W., M.A.	Trinity College, Dublin.
Petty, Miss Audrey.	Harrogate Art School.
Rix, M., B.A.	University College, Oxford
Segall, Dr. Berta.	
Sinclair Stevenson, Dr. M., M.A.	Somerville College, Oxford.
Thompson, F.	Winchester College.
Wallace, D. J., B.A.	Balliol and Merton Colleges, Oxford.
Walter, N. S.	Exeter College, Oxford; Clarke Student.

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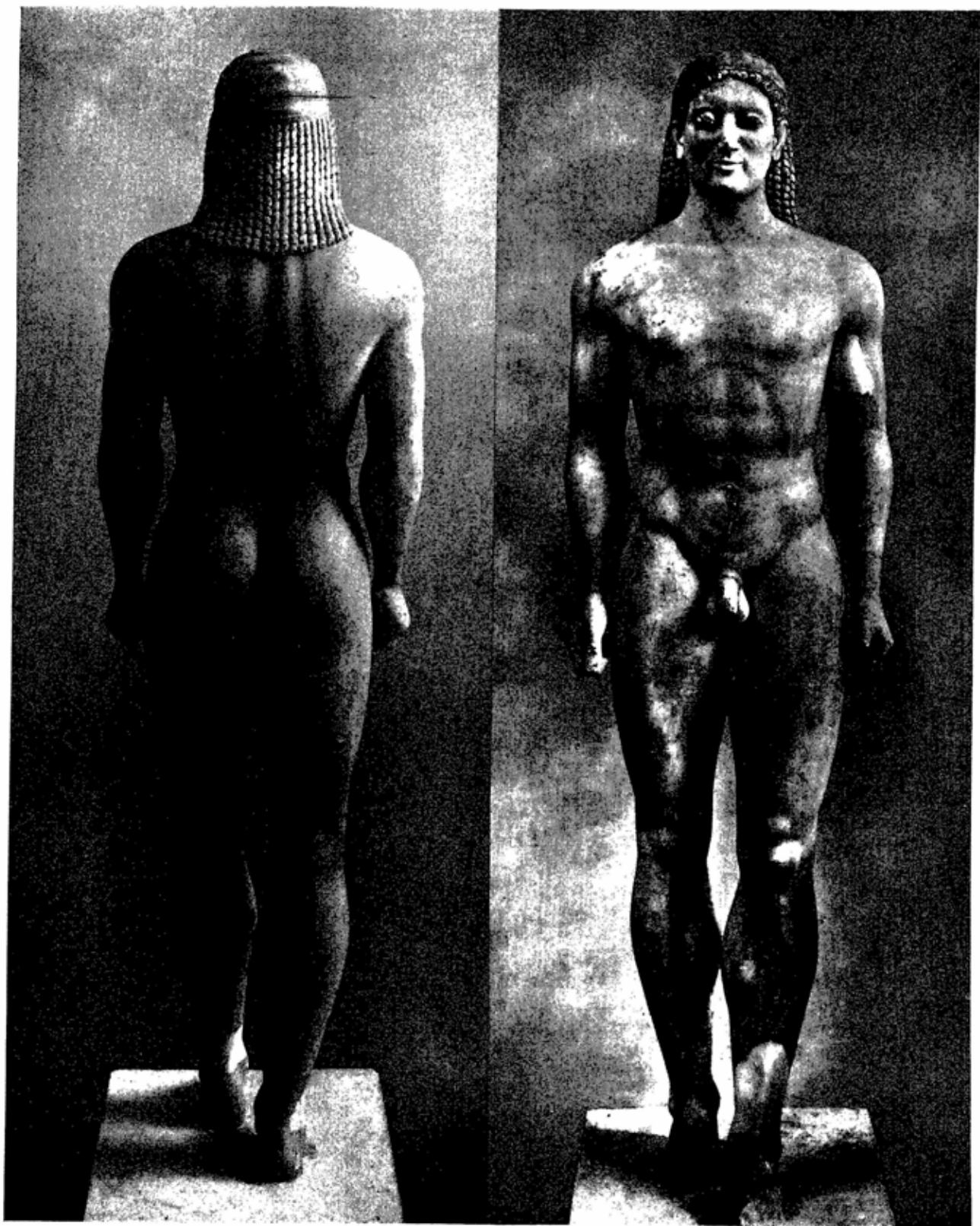
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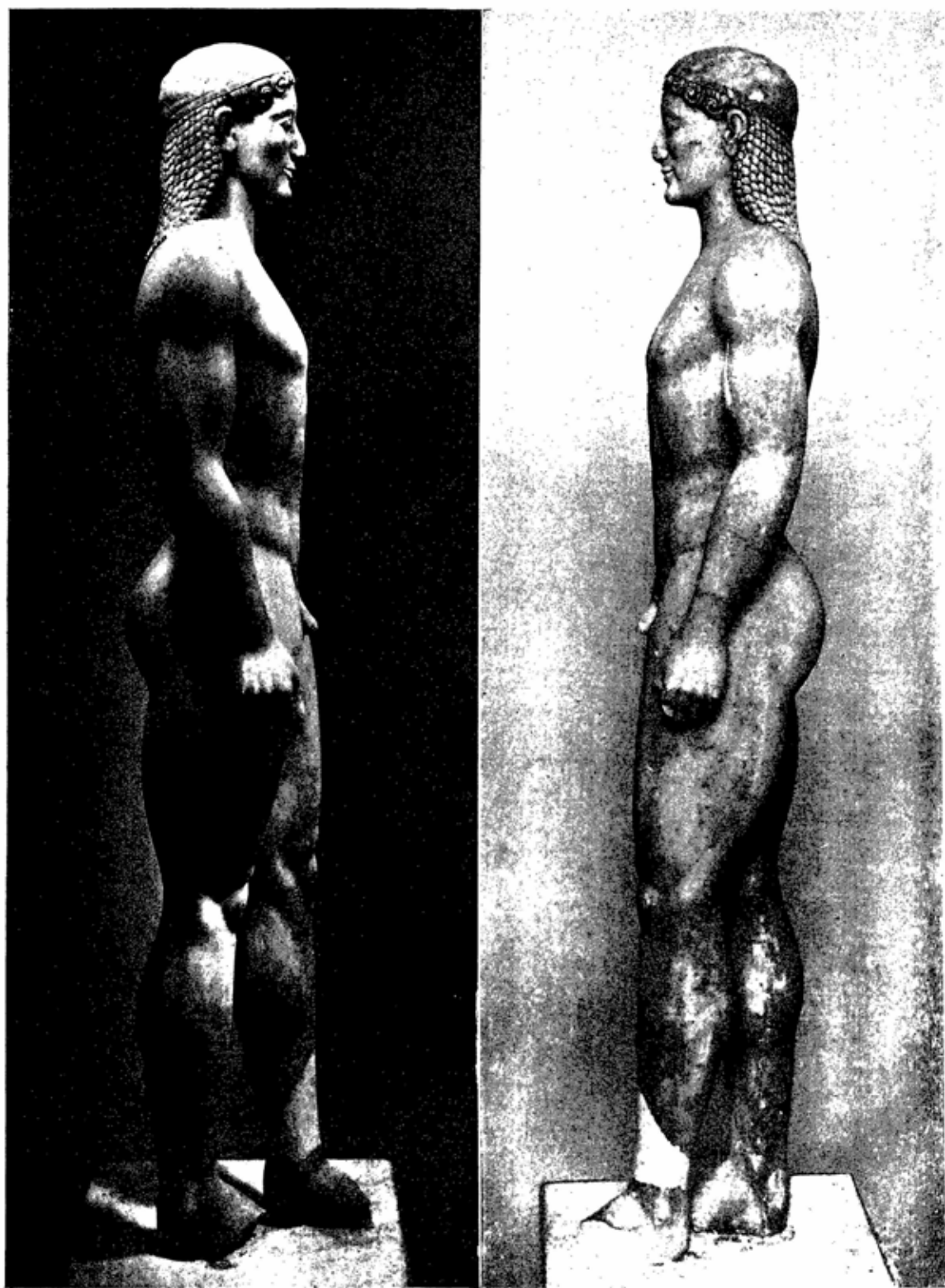
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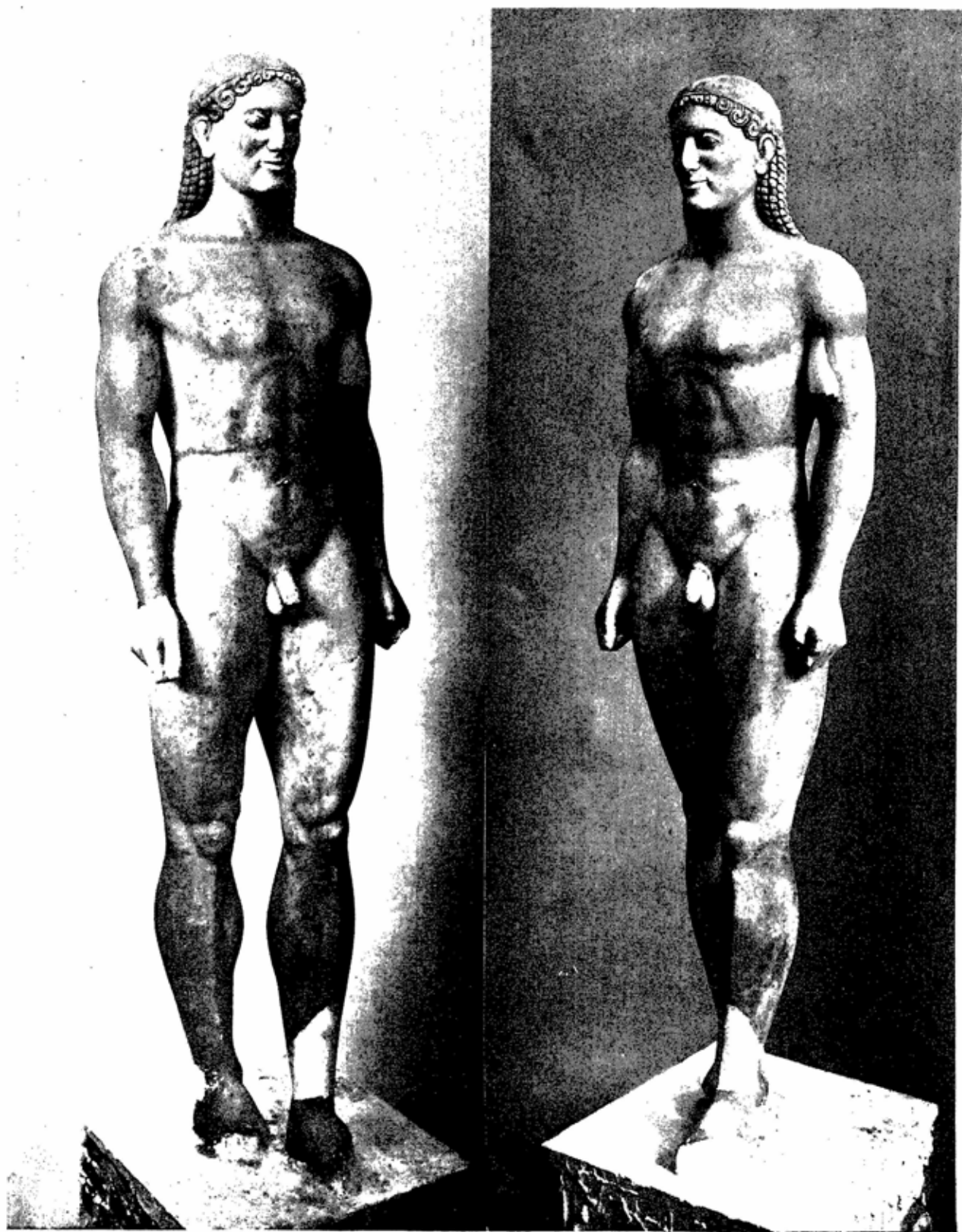
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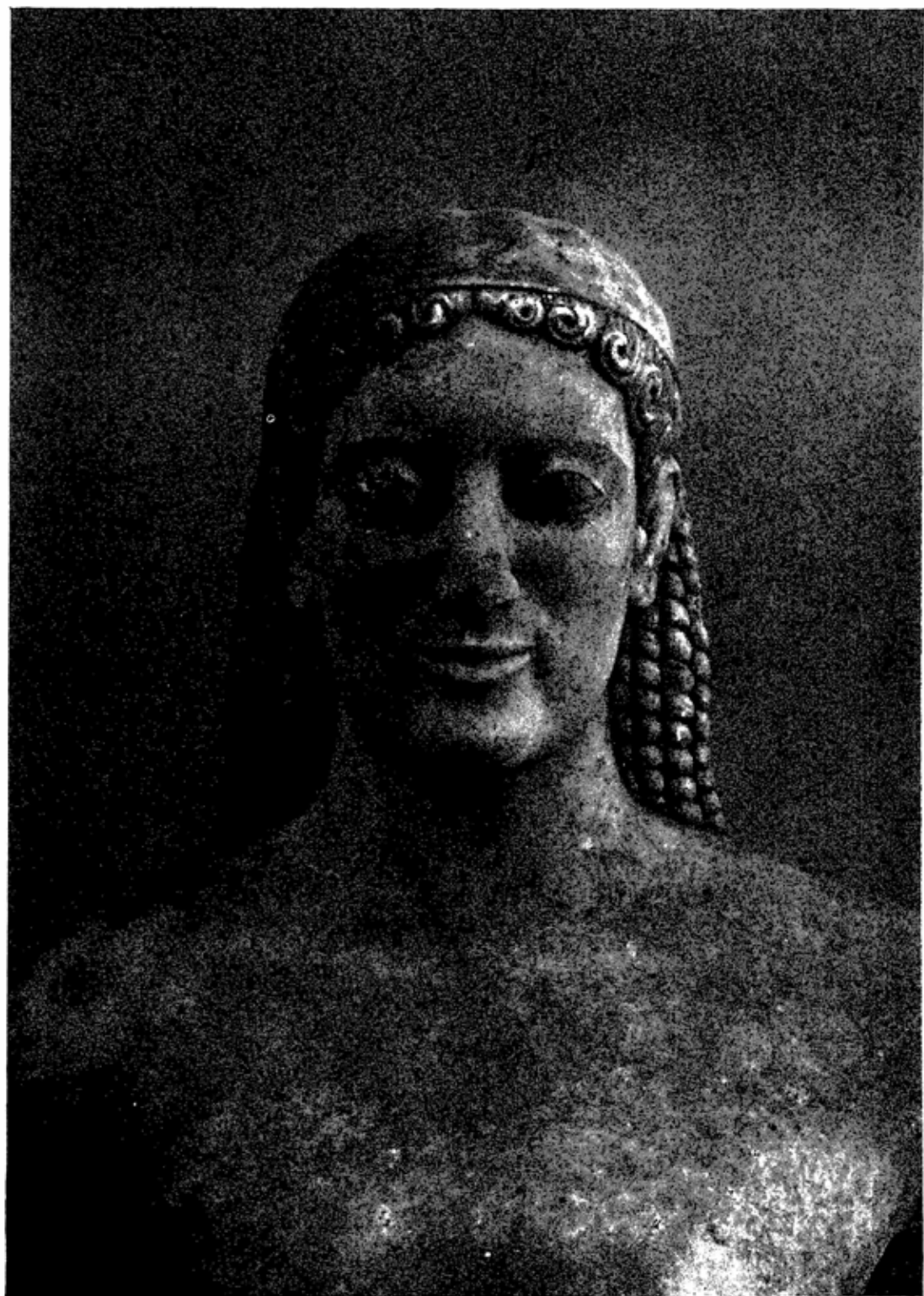




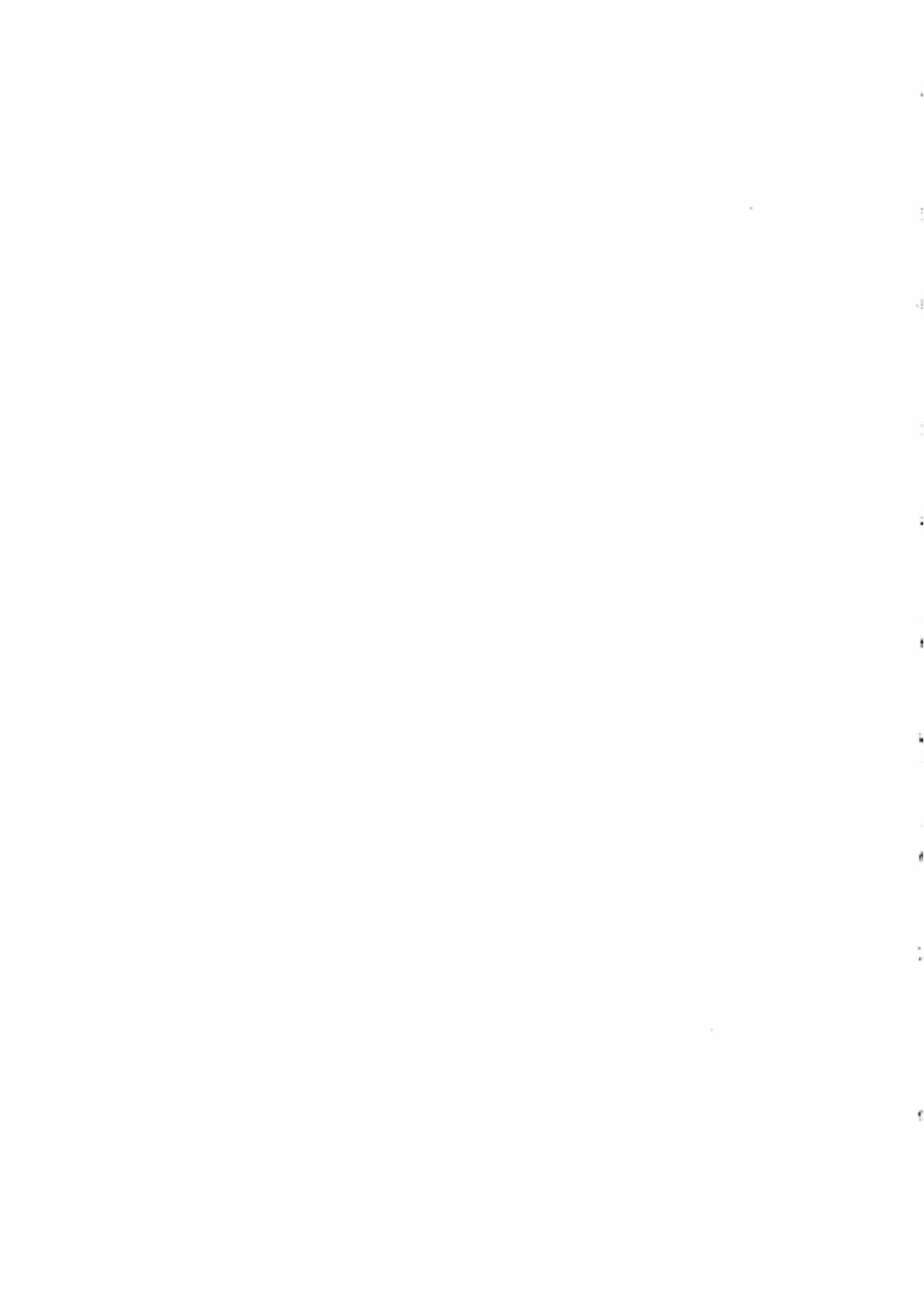
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*a*



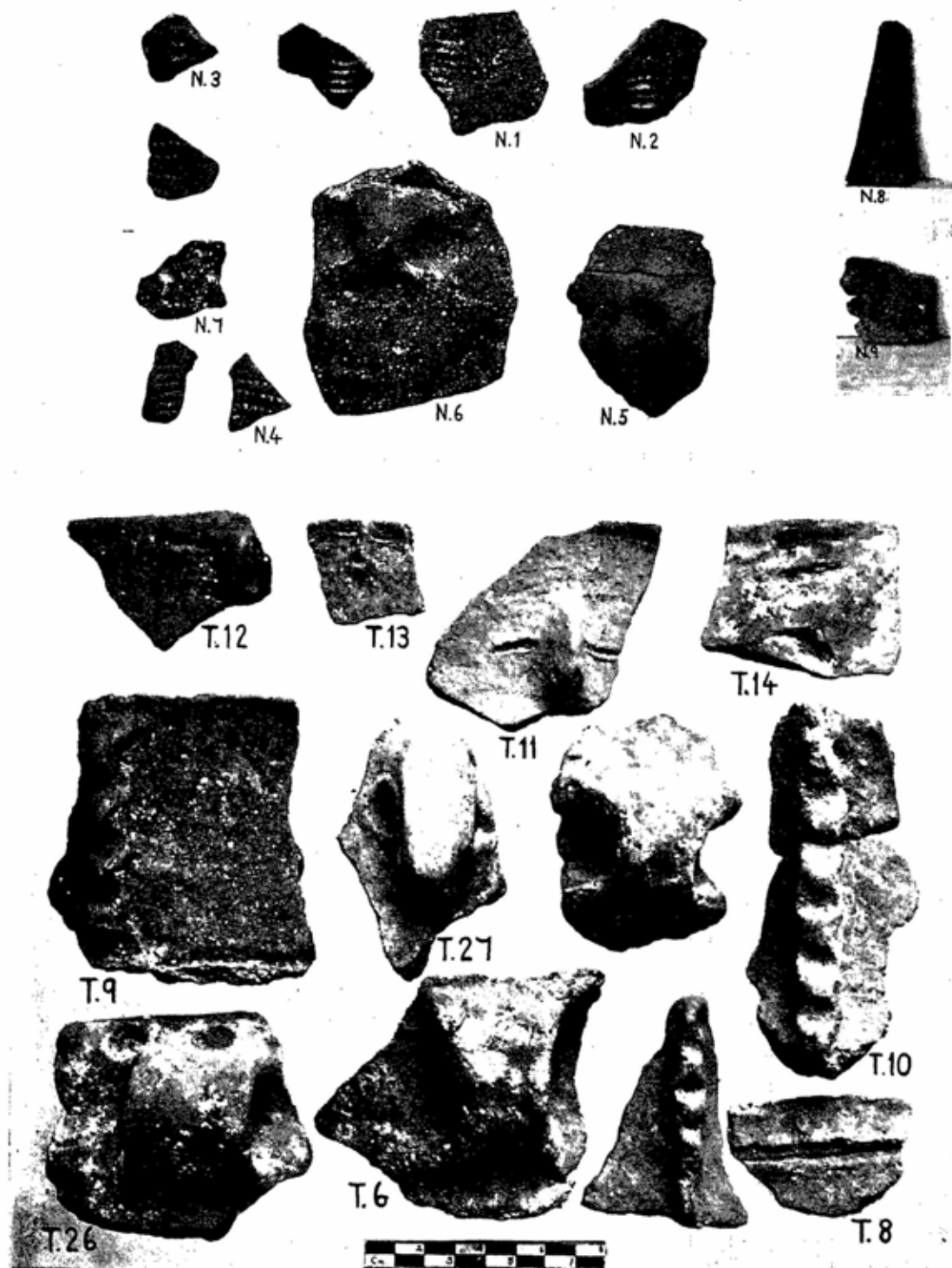
*b*



*c*

EXCAVATIONS IN LASITHI: *a*, THE PLAIN OF LASITHI FROM LAGOU; *b*, THE TRAPEZA PLATEAU;  
*c*, INTERIOR OF THE TRAPEZA CAVE.

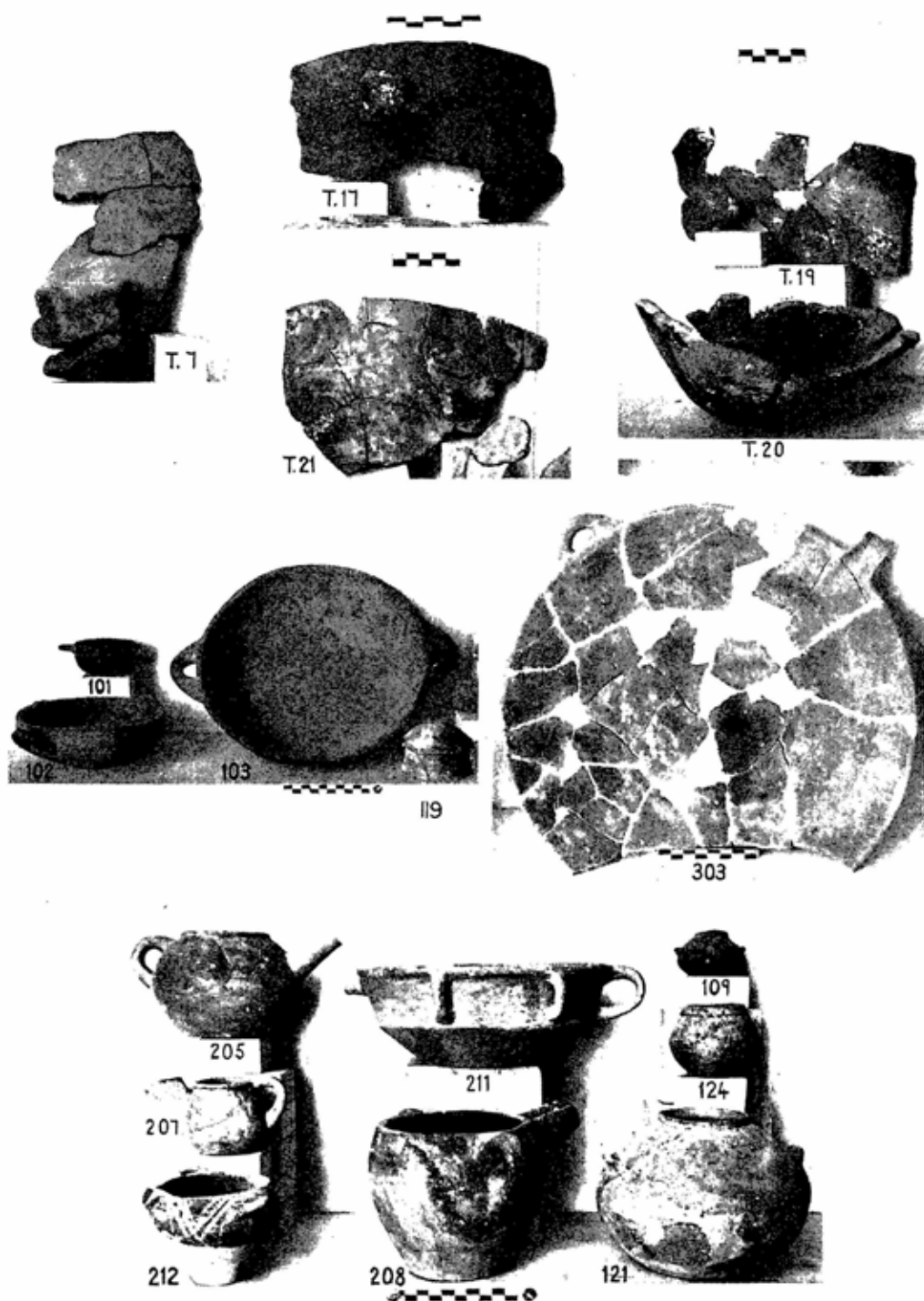




EXCAVATIONS IN LASITHI: NEOLITHIC AND TRAPEZA WARE.

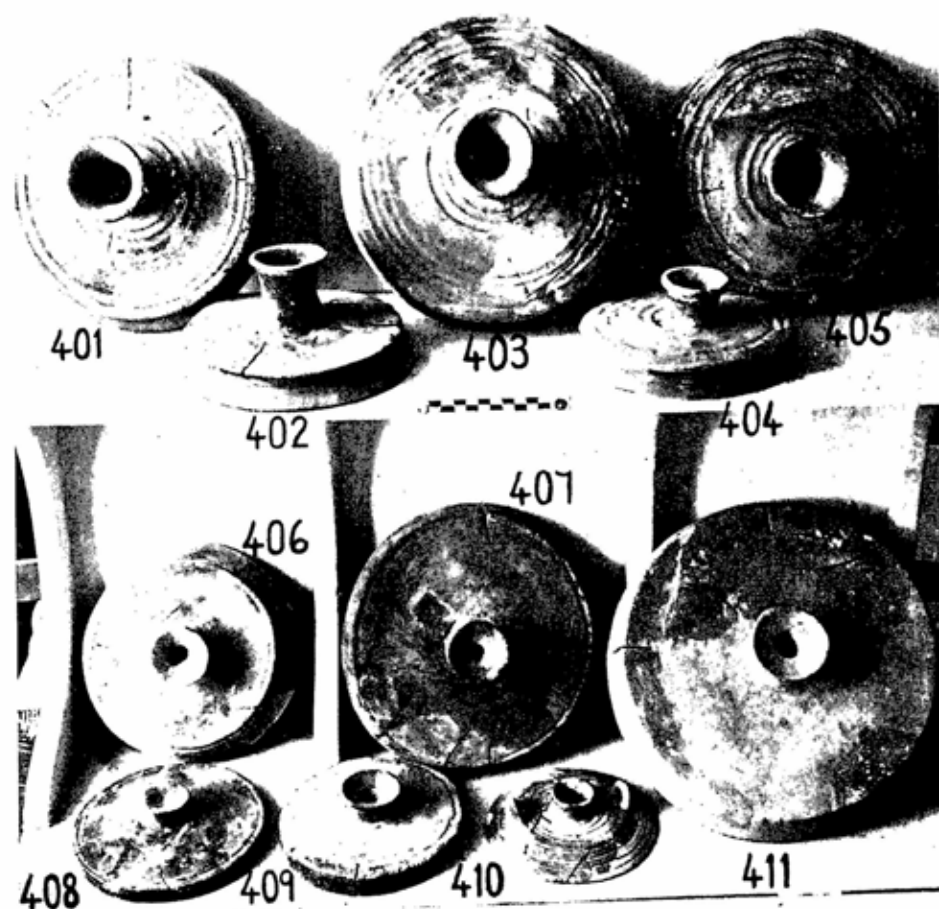






EXCAVATIONS IN LASITHI: TRAPEZA WARE, BOWLS, SIDE-SPOUTED BOWLS AND DISH.  
T. 7 scale *c.* 1: 3.





EXCAVATIONS IN LASITHI: DISHES AND COVERS.



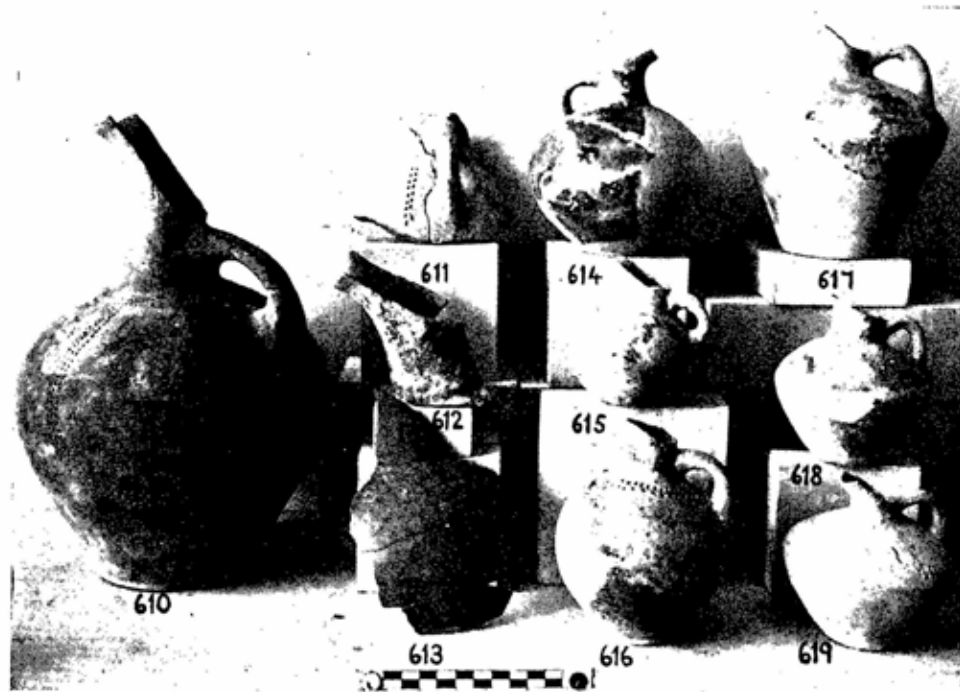
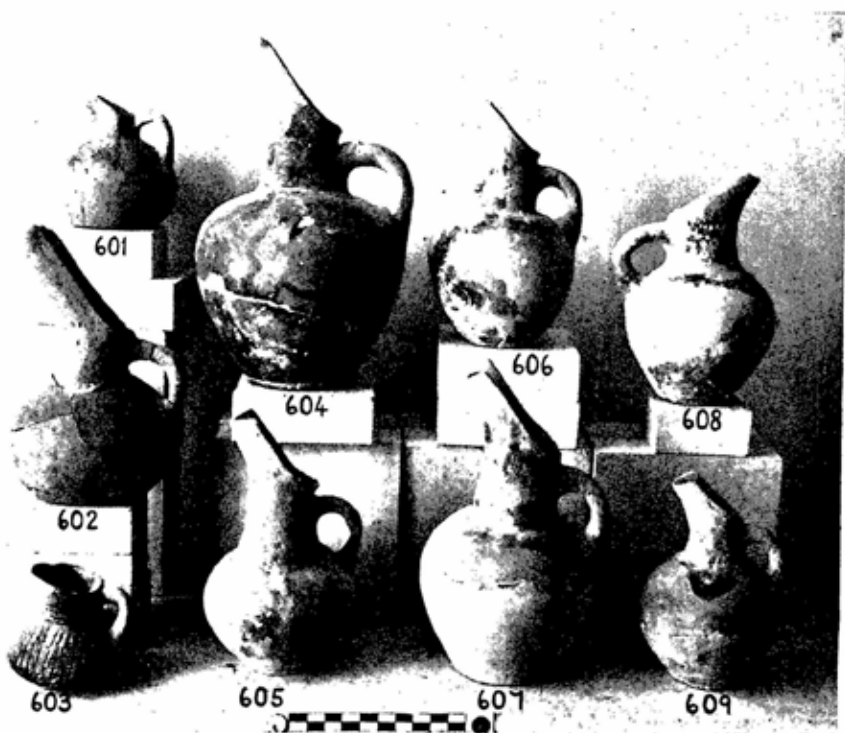


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EXCAVATIONS IN LASITHI: CUPS AND JUGS.

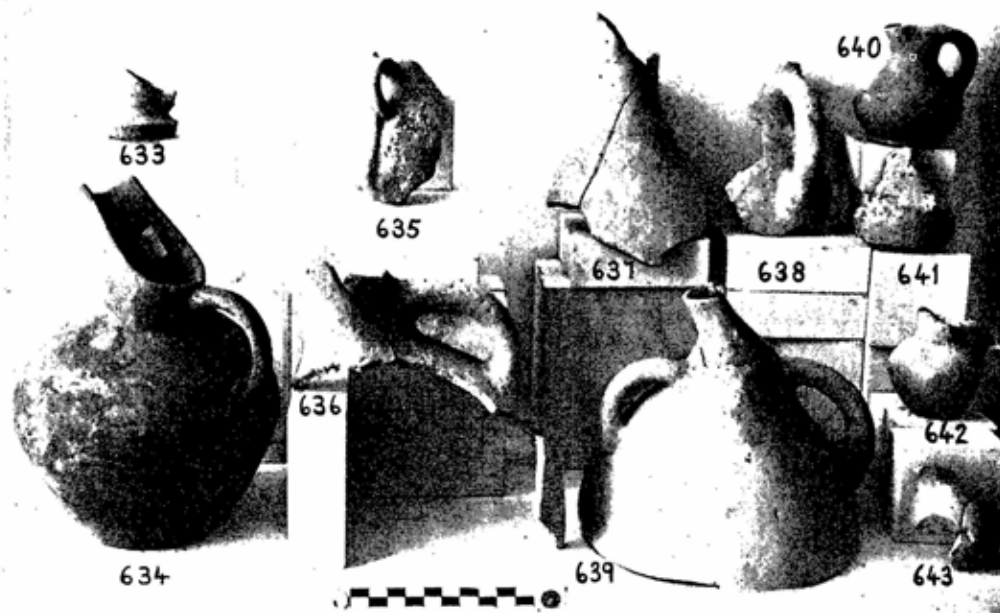
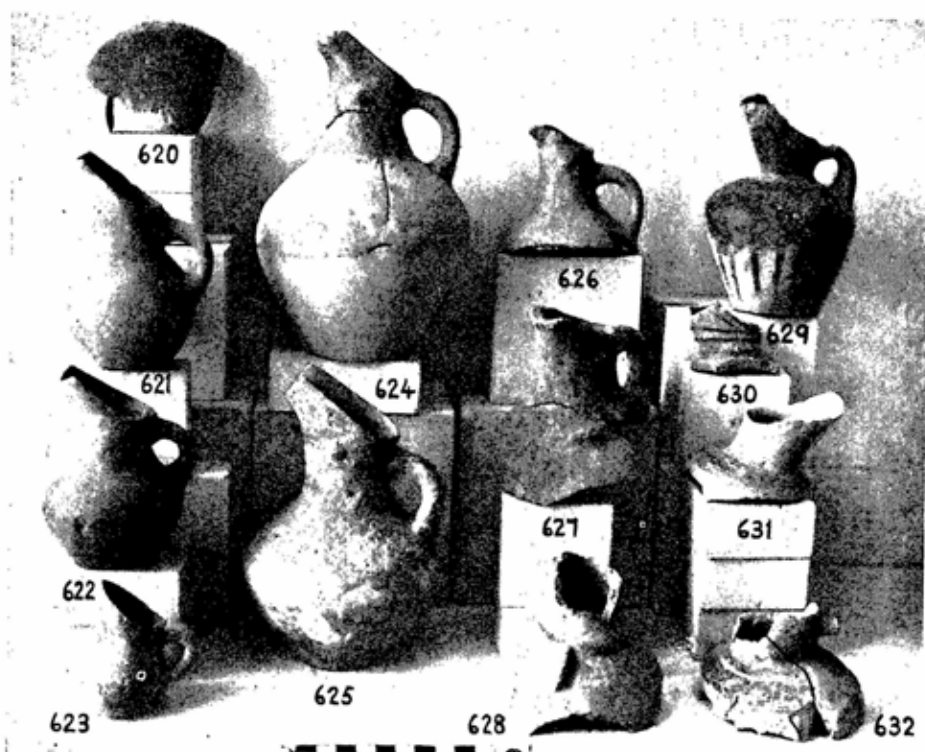




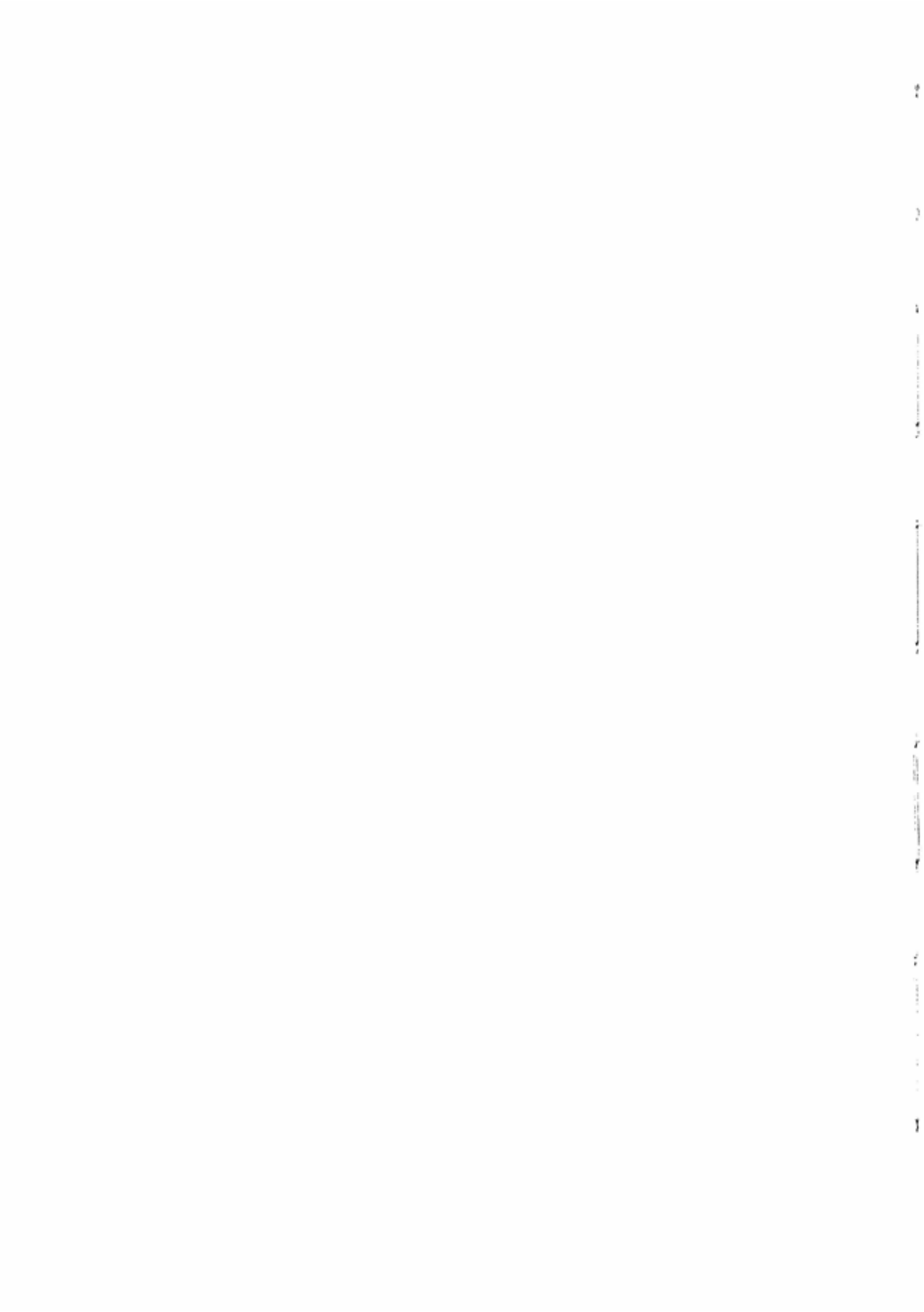
EXCAVATIONS IN LASITHI: JUGS.







EXCAVATIONS IN LASITHI: JUGS.





EXCAVATIONS IN LASITHI: BOTTLES, GOBLETs AND ANTHROPOMORPHIC VASE





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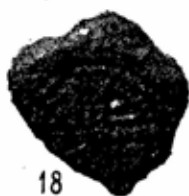
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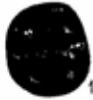
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EXCAVATIONS IN LASITHI: SEALS.

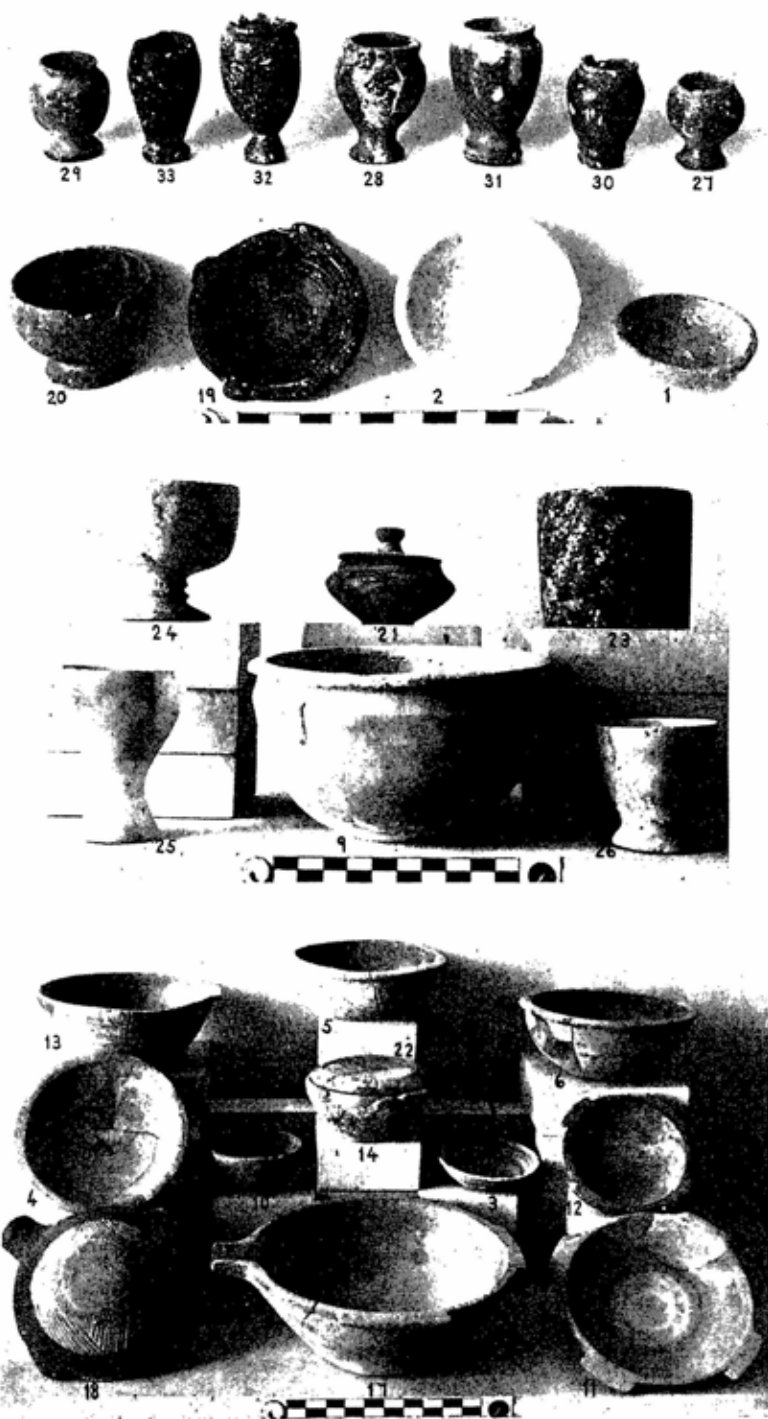




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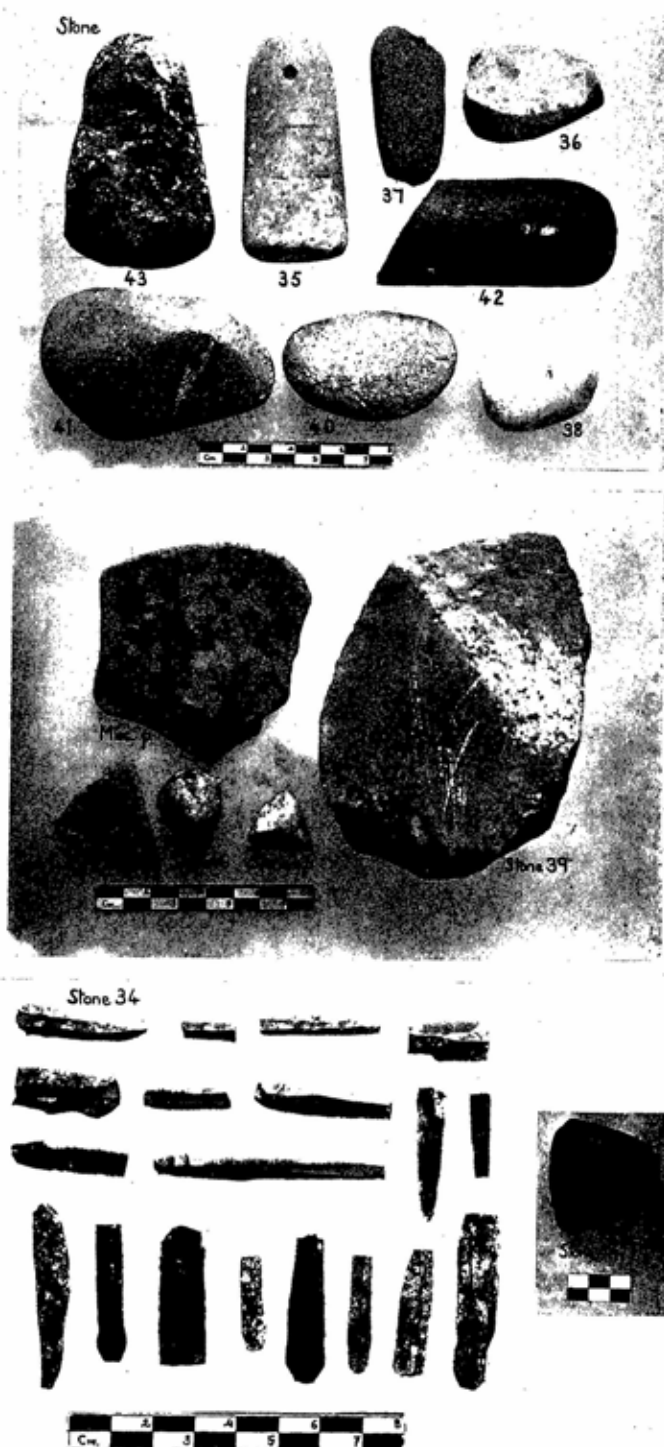






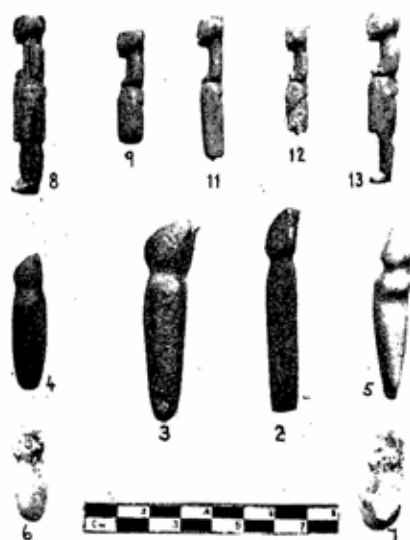
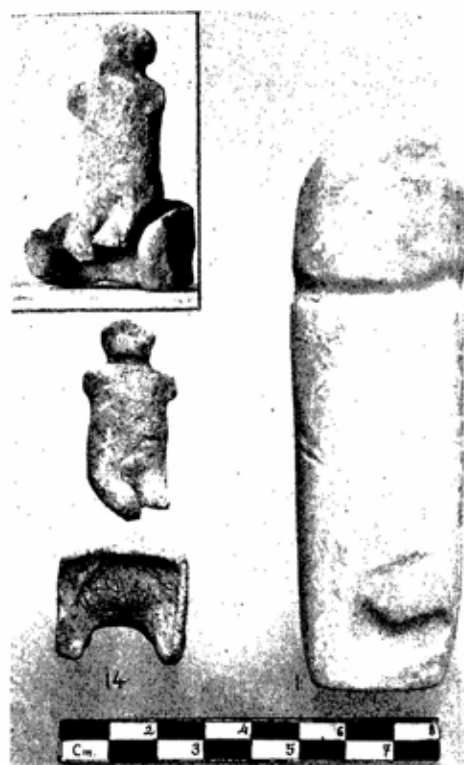
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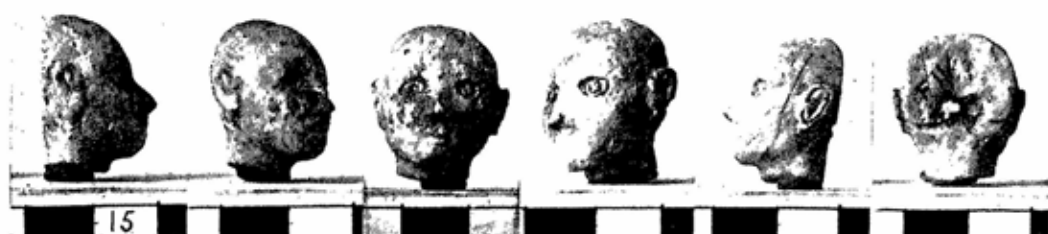
EXCAVATIONS IN LASITHI: STONE TOOLS AND MISCELLANEA.





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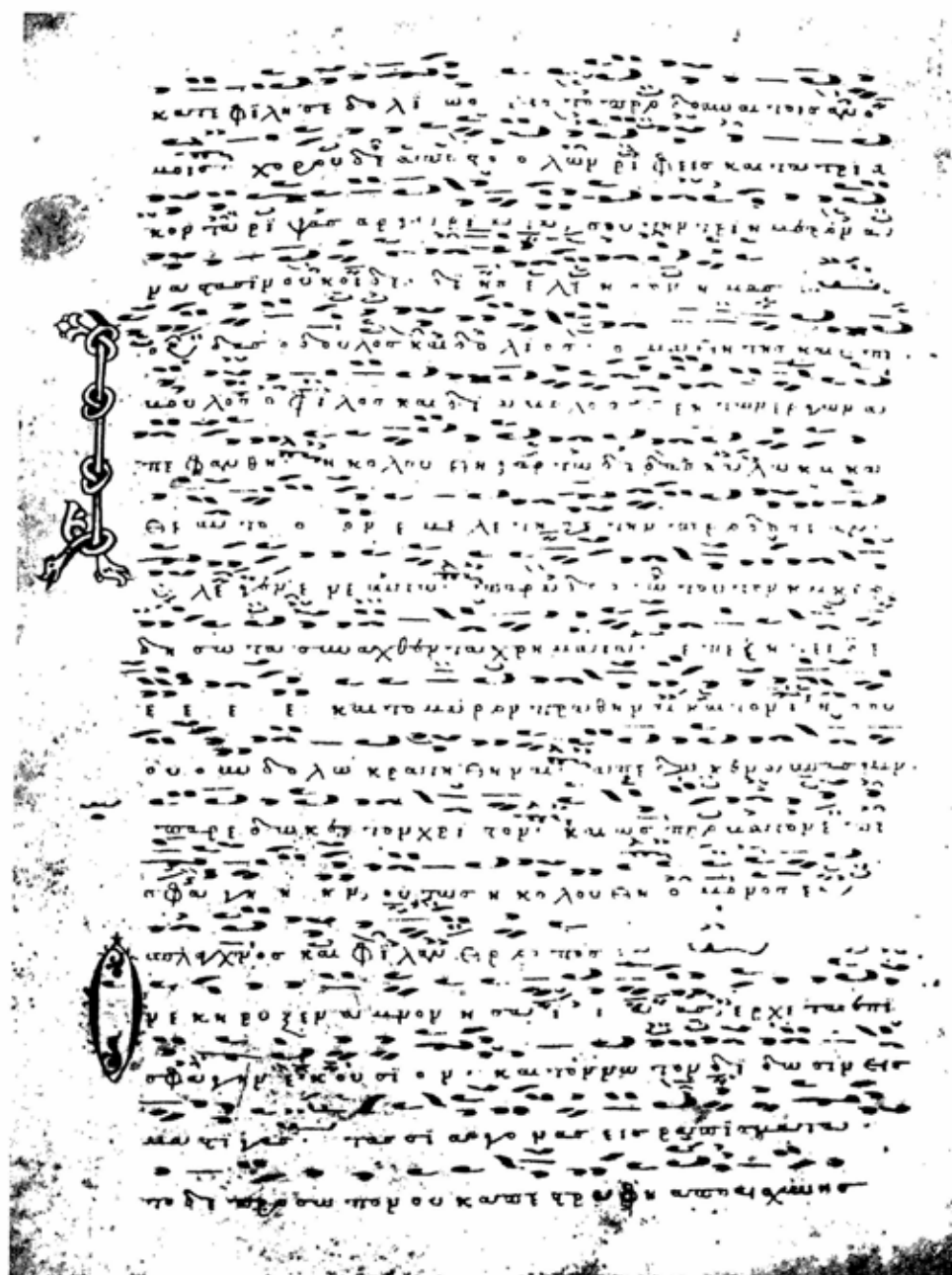




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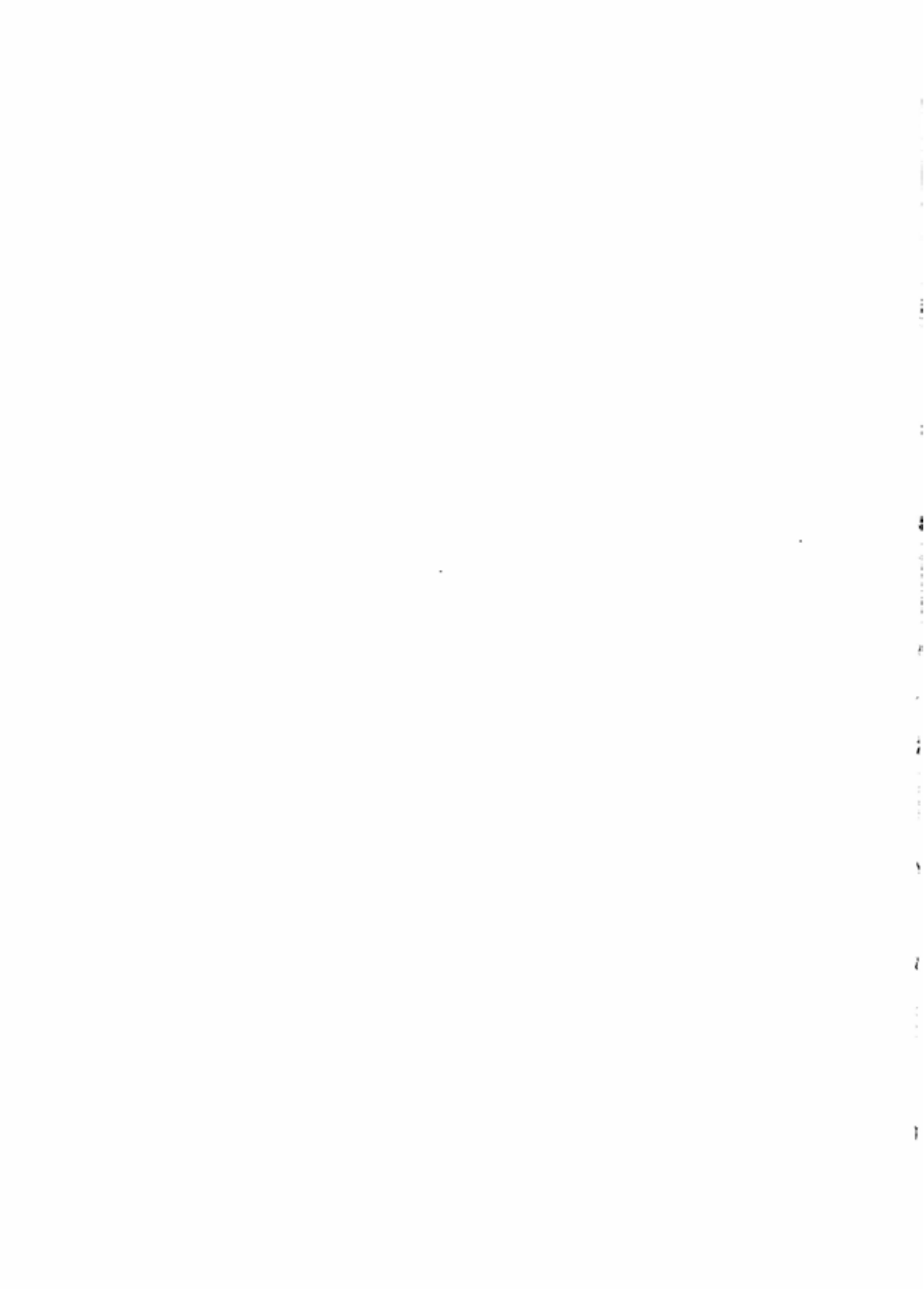


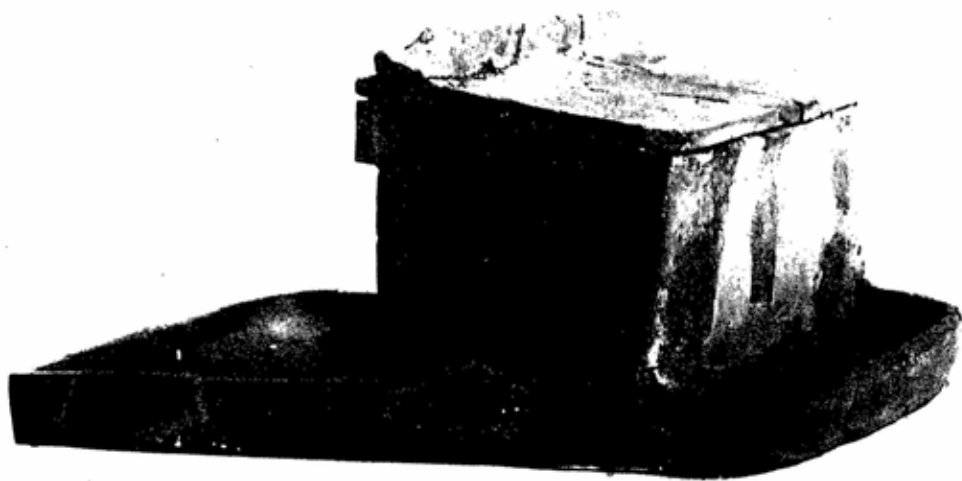
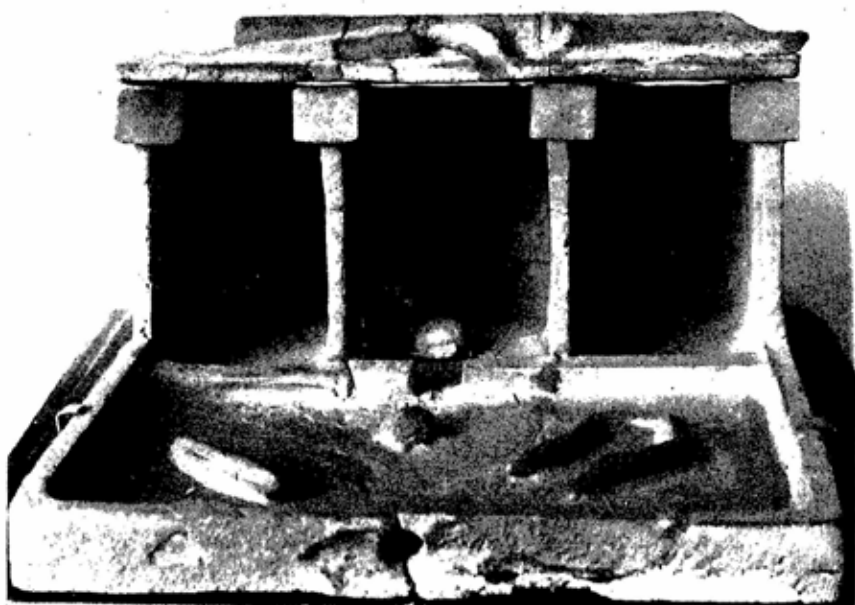




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GREEK FOUNTAIN-BUILDINGS: TERRACOTTA MODEL FROM LEMNOS.





*a*



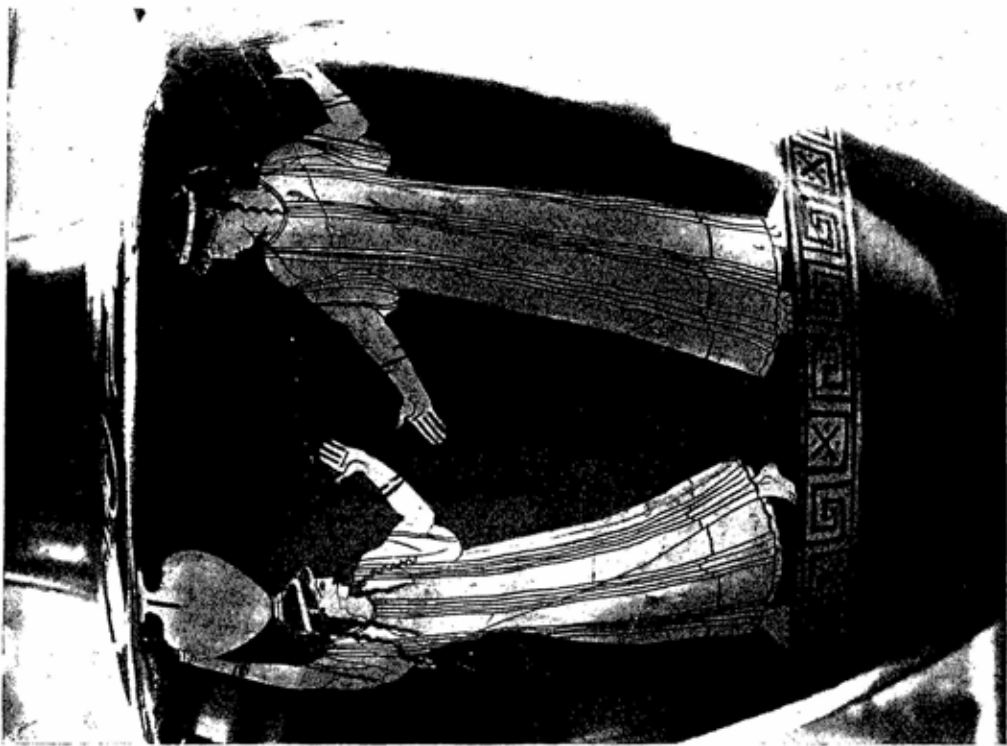
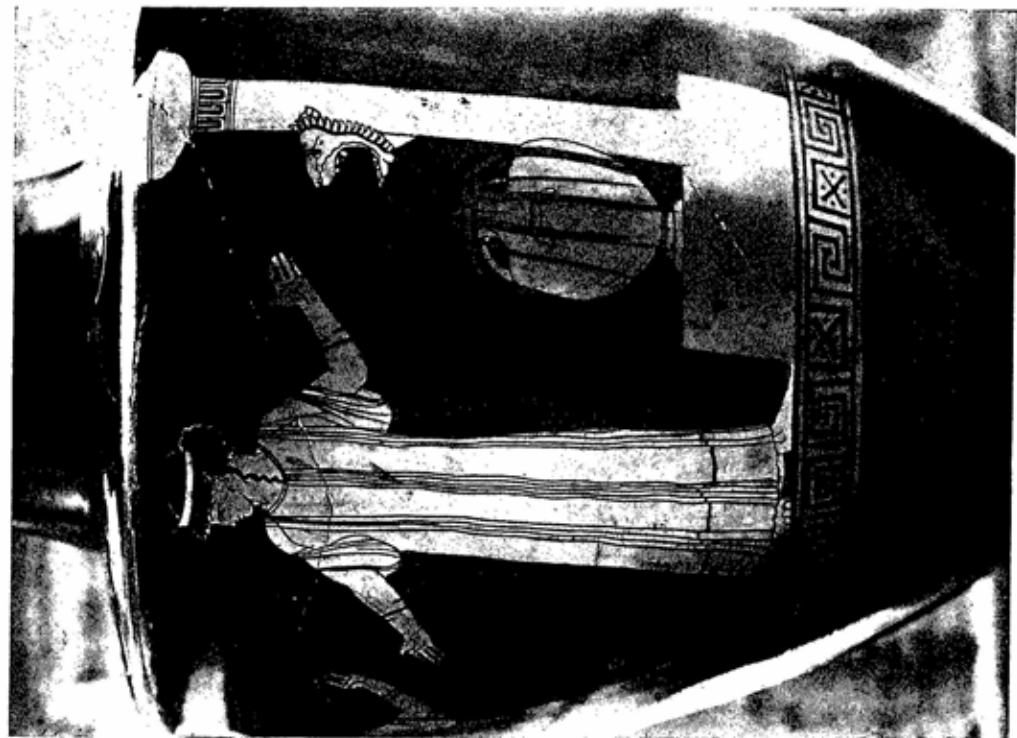
*b*



*c*

GREEK FOUNTAIN-BUILDINGS: *a*, HYDRIA IN THE BRITISH MUSEUM, B 330;  
*b*, HYDRIA IN THE BRITISH MUSEUM, b 334; *c*, LID IN ELEUSIS.





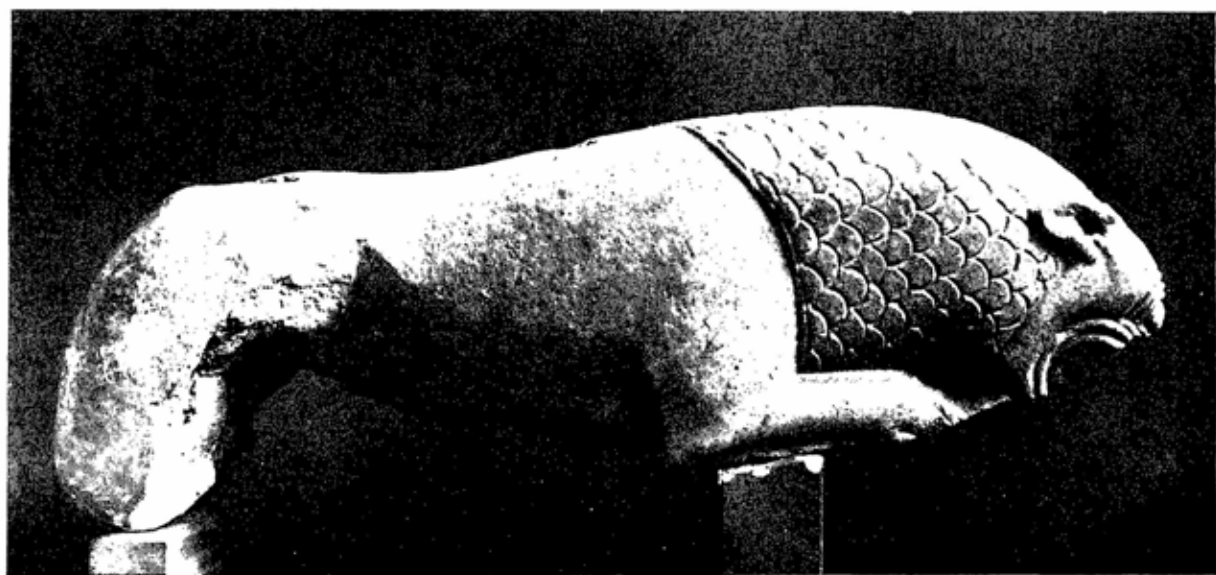
GREEK FOUNTAIN-BUILDINGS: HYDRIA, MADRID 1117.







*a*



*b*

GREEK FOUNTAIN-BUILDINGS: *a*, FOUNTAIN IN THE AGORA AT CORINTH;  
*b*, LION SPOUT AT OLYMPIA.





a



b

GREEK FOUNTAIN-BUILDINGS: TWO SPOUTS FROM THE FOUNTAIN IN THE AGORA AT CORINTH.







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